GENESEE COUNTY PLANNING BOARD REFERRALS
NOTICE OF FINAL ACTION

GCDP Referral ID	**T-01-ELB-05-23**
Review Date	**5/11/2023**
Municipality	**ELBA, T.**
Board Name	**PLANNING BOARD**
Applicant's Name	**FFP NY Elba Project1, LLC**
Referral Type	**Special Use Permit**
Variance(s)	
Description:	**Special Use Permit to amend a site plan for a 5 MW ground mounted commercial solar system.**
Location	**6982 and 6920 Norton Rd., Elba**
Zoning District	**Agricultural-Residential (A-R) District**

PLANNING BOARD RECOMMENDS:

APPROVAL

EXPLANATION:

The proposed solar energy system should pose no significant county-wide or intercommunity impact.

Felice A. Altman

Director

May 11, 2023

Date

If the County Planning Board disapproved the proposal, or recommends modifications, the referring agency shall NOT act contrary to the recommendations except by a vote of a majority plus one of all the members and after the adoption of a resolution setting forth the reasons for such contrary action. Within 30 days after the final action the referring agency shall file a report of final action with the County Planning Board. An action taken form is provided for this purpose and may be obtained from the Genesee County Planning Department.

SEND OR DELIVER TO:
GENESEE COUNTY DEPARTMENT OF PLANNING
3837 West Main Street Road
Batavia, NY 14020-9404
Phone: (585) 815-7901

DEPARTMENT USE ONLY:
GCDP Referral # T-01-ELB-05-23

RECEIVED
Genesee County
Dept. of Planning
4/27/2023

* GENESEE COUNTY * PLANNING BOARD REFERRAL

Required According to:
GENERAL MUNICIPAL LAW ARTICLE 12B, SECTION 239 L, M, N
(Please answer ALL questions as fully as possible)

1. REFERRING BOARD(S) INFORMATION

Board(s) Town of Elba, Planning Board
Address 7133 Oak Orchard Road
City, State, Zip Elba, NY 14058
Phone (585) 757 - 2762 Ext.

2. APPLICANT INFORMATION

Name FFP NY Elba Project1, LLC
Address 101 Summer Street, 2nd Floor
City, State, Zip Boston, NA 02110
Phone (585) 757 - 2762 Ext. Email dkanyuck@nyenvlaw.com

MUNICIPALITY: ☐ **City** ■ **Town** ☐ **Village** **of** Elba

3. TYPE OF REFERRAL: (Check all applicable items)

- ☐ Area Variance
- ☐ Use Variance
- ■ Special Use Permit
- ■ Site Plan Review
- ☐ Zoning Map Change
- ☐ Zoning Text Amendments
- ☐ Comprehensive Plan/Update
- ☐ Other:

Subdivision Proposal
- ☐ Preliminary
- ☐ Final

4. LOCATION OF THE REAL PROPERTY PERTAINING TO THIS REFERRAL:

A. Full Address 6982 and 6920 Norton Road, Elba, NY 14058
B. Nearest intersecting road Ford Road
C. Tax Map Parcel Number 9.-1-39.111
D. Total area of the property 138.2 acres Area of property to be disturbed 41.9 acres
E. Present zoning district(s) Agricultural-Residential (A-R) District

5. REFERRAL CASE INFORMATION:

A. Has this referral been previously reviewed by the Genesee County Planning Board?

☐ NO ■ YES If yes, give date and action taken 4/8/2021 approved. This is an amendment application.

B. Special Use Permit and/or Variances refer to the following section(s) of the present zoning ordinance and/or law

Zoning Section 413 (Solar Energy Systems)

C. Please describe the nature of this request The application would amend the existing site plan and special permit for Norton Road Solar Project to reduce the project footprint from 41.9 to 40.8 acres, raise the maximum panel height from 10 to 20 feet, and extend the permit timeframe.

6. ENCLOSURES – Please enclose copy(s) of all appropriate items in regard to this referral

- ■ Local application
- ■ Site plan
- ☐ Subdivision plot plans
- ■ SEQR forms
- ■ Zoning text/map amendments
- ■ Location map or tax maps
- ■ Elevation drawings
- ■ Agricultural data statement
- ☐ New or updated comprehensive plan
- ☐ Photos
- ■ Other: Prior approved project application for comparison

7. CONTACT INFORMATION of the person representing the community in filling out this form (required information)

Name Dwight Kanyuck Title Attorney for Town Phone (585) 546 - 8430 Ext.
Address, City, State, Zip 100 S. Clinton Ave., Ste. 2600, Rochester 14604 Email dkanyuck@nyenvlaw.com

Mr. Chuck Hoover
Planning Board Chairman
Town of Elba Planning Board
7 Maple Avenue
P.O. Box 295
Elba, New York 295

Arcadis of New York, Inc.
50 Fountain Plaza
Suite 600
Buffalo
New York 14202
Phone: 716 667 0900
Fax: 716 842 2612
www.arcadis.com

Date: April 14, 2023
Our Ref: 30052124
Subject: Tier 3 Solar Special Use Permit Application Materials (Amended)
FFP NY Elba Project1, LLC
Town of Elba, New York

Dear Mr. Hoover,

Per your recent discussions with FFP NY Elba Project1, LLC (FFP), please find attached the Amended Tier 3 Solar Special Use Permit application materials for FFP's Norton Solar Project located at 6982 Norton Road, Elba, New York.

If you have any questions or require additional information, please do not hesitate to contact me at Michael.Higgins@arcadis.com or 315.382.0567 or Christian Schlesinger at cschlesinger@forefrontpower.com or 631.495.4950.

Sincerely,
Arcadis of New York, Inc.

Michael Higgins Jr.

Michael Higgins Jr., P.E., C.P.E.S.C.
Principal Engineer

Email: Michael.Higgins@arcadis.com
Mobile: 315.382.0567

CC. Christian Schlesinger, ForeFront Power
Kelsey Crane, ForeFront Power
Svetlana Mikheyeva, FFP
Jennifer Delaney, FFP
Meghan Platt, Arcadis
Owen Hunter, Arcadis

Mr. Chuck Hoover
Town of Elba
April 14, 2023

Enclosures:

1. Petition to the Planning Board (1 page)
2. Special Use Permit Application (1 page)
3. Site Plan Permit Application (1 page)
4. Agricultural Data Statement (2 pages)
5. Full Environmental Assessment Form (44 pages)
    a. NYSDEC New York Natural Heritage Program Memo
    b. NYSDEC Office of Parks, Recreation and Historic Preservation Memo
    c. USFWS Consultation Memo and Determination
6. Stormwater Pollution Prevention Plan (147 pages)
    a. Soil Resource Report for Genesee County
    b. Contractor Compliance Form
    c. Notice of Intent
    d. Civil/Sitework Drawings
    e. NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities
    f. Stormwater and Erosion Control Analysis
    g. Office of Parks, Recreation and Historic Preservation Documentation
    h. Solar Memos
7. NYSDEC 5-Acre Waiver Approval (2 pages)
8. Genesee County Soil & Water Conservation District Planting, Maintenance and Monitoring Plan Review Letter (1 page)
9. Single- and Three-Line Diagrams (6 pages)
10. Planting, Maintenance, and Monitoring Plan (19 pages)
11. Operation and Maintenance Plan (5 pages)
12. Decommissioning Plan (13 pages)

Petition to the Planning Board

TOWN OF ELBA

Genesee County, New York

PETITION TO THE PLANNING BOARD

No. 1 **Date:** April 14, 2023

Petition is made to the Planning Board of the Town of Elba, New York for one of the following:

- ■ Special Use Permit
- £ Site Plan Review

STATE THE NATURE OF PETITION:

Seeking to install a 5 MW solar array with associated electrical equipment, access road, fencing, and landscaping on a portion of the parcel (see project summary table on the site plan) of an existing agricultural field.

NOTE TO PETITIONER: In order for the Town Planning Board to act on a Special Use Permit or to complete a Site Plan Review, all required information must be provided with the Application form.

DocuSigned by:
Jennifer Delaney
23A2FBBFEF4F424...

Signature of Petitioner

101 Summer Street, 2nd Floor, Boston, MA 02110
Petitioner's Address

617-431-1440
Telephone Number

Petition Fee: _____ Date Paid:_____ Received By:_____

_____ _____

Signature of Zoning Enforcement Officer Date

Special Use Permit Application

APPLICATION FORM FOR
SPECIAL USE PERMIT
TOWN OF ELBA PLANNING BOARD

APPLICANT: FFP NY Elba Project1, LLC

ADDRESS: 101 Summer Street, 2nd Floor, Boston, MA 02110

ZONING PERMIT FOR: Installation of 5 MW solar array and associated appurtenances.

LOCATION OF PROPERTY FOR WHICH PERMIT APPLIES: 6982 Norton Road, Elba, New York 14058

TAX LOT NUMBER: 9.-1-39.111

TO BE COMPLETED BY TOWN PLANNING BOARD:

APPLICATION DATE: _____ NEXT PLANNING BOARD MEETING DATE:_____

LISTED IN ZONING LAW: _____ YES _____ NO; BUILDING PERMIT REQUIRED: _____ YES _____ NO

SITE PLAN REVIEW REQUIRED: _____ YES _____ NO

COMPATIBLE WITH ADJACENT LAND USE:

_____ 1. The site is determined to be safe and harmonious to the adjacent area

_____ 1. The location, nature, and height

Site Plan Review Application

APPLICATION FORM FOR
SITE PLAN REVIEW
ELBA TOWN PLANNING BOARD

Applicant (name): FFP NY Elba Project1, LLC

Address: 101 Summer Street, 2nd Floor, Boston, MA 02110 **Phone:** 617-431-1440

Purpose of Zoning Permit: Installation of 5 MW solar array and appurtenances.

Location of Property For Which Permit Applies: 6982 Norton Road, Elba, NY 14058

Tax Lot Number: 9.-1-39.111

Required Supporting Data:

x 1) survey of property showing existing features, including contours, utility easements, large trees, buildings, uses, structures, streets, rights-of-way, zoning and ownership of surrounding property

x 2) layout sketch showing proposed lots, blocks, building locations and land use area

____ 3) traffic circulation, parking and loading spaces, pedestrian walks

x 4) landscaping plans including site grading, landscape design, open space and buffer zone

____ 5) preliminary architectural drawings for buildings to be constructed, floor plans, exterior elevations and sections

____ 6) engineering feasibility study of an anticipated problem which may arise from the proposed development [if required by Planning Board]

____ 7) construction sequence and time schedule for completion of each phase for buildings, parking and landscape areas

____ 8) description of proposed uses, anticipated hours of operation, expected number of employees and anticipated volume of traffic

X 9) other information requested by Planning Board:

See attachments

All Completed Application Information Attached: (date) April 14, 2023

Agricultural Data Statement

TOWN VILLAGE CITY OF Elba Application # 1

(circle one)

Agricultural Data Statement

Date November 2, 2020

Instructions: This form must be completed for any application for a special use permit, site plan approval, use variance or a subdivision approval requiring municipal review that would occur on property within 500 feet of a farm operation located in a NYS Dept. of Ag & Markets certified Agricultural District.

Applicant	Owner if Different from Applicant
Name: ForeFront Power, LLC Address: 100 Montgomery Street, Suite 275 San Francisco, CA 94104	Name: Daniel G. & Penny S. Mudrzynski Address: 6974 Norton Road, Elba NY 14058

1. Type of Application: ☑ Special Use Permit; ☑ Site Plan Approval ; ☐ Use Variance; ☐ Subdivision Approval
   (circle one or more)

2. Description of proposed project:
   Seeking to install a 5 MW solar array with associated electrical equipment, access road, fencing, and landscaping on an existing agricultural field.

3. Location of project: Address: 6982 Norton Road, Elba, NY 14058
   Tax Map Number (TMP) 9.-1-39.111

4. Is this parcel within an Agricultural District? ☐ NO ☑ YES (Check with your local assessor if you do not know)
5. If YES, Agricultural District Number 2 (Genesee County)
6. Is this parcel actively farmed? ☐ NO ☑ YES
7. List all farm operations within 500 feet of your parcel. Attach additional sheets if necessary.

Name: Mark W and John Torrey Address: 4593 Edgerton Road, Elba, NY 14058 Is this parcel actively farmed? ☐ NO ☑ YES	Name: John, Mark, and Maureen Torrey Address: 4199 Maltby Road, Elba, NY 14058 Is this parcel actively farmed? ☐ NO ☑ YES
Name: Daniel W Schultz Address: 6913 Norton Road, Elba, NY 14058 Is this parcel actively farmed? ☐ NO ☑ YES	Name: Zuber Farms Partnership Address: 3846 Westside Drive, Churchville, NY 14428 Is this parcel actively farmed? ☐ NO ☑ YES

Christian Schlesinger
Digitally signed by Christian Schlesinger
Reason: I attest to the accuracy and integrity of this document
Date: 2020.11.06 10:47:15-05'00'

Signature of Applicant

David G. Mudrzynski 11-5-20

Signature of Owner (if other than applicant)

Reviewed by: _____ _____

Signature of Municipal Official — Date

NOTE TO REFERRAL AGENCY: County Planning Board review is required. A copy of the Agricultural Data Statement must be submitted along with the referral to the County Planning Department.

TOWN VILLAGE CITY OF Elba Application # 1

(circle one)

Agricultural Data Statement

Date November 2, 2020

Instructions: This form must be completed for any application for a special use permit, site plan approval, use variance or a subdivision approval requiring municipal review that would occur on property within 500 feet of a farm operation located in a NYS Dept. of Ag & Markets certified Agricultural District.

Applicant	Owner if Different from Applicant
Name: ForeFront Power, LLC Address: 100 Montgomery Street, Suite 275 San Francisco, CA 94104	Name: Daniel G. & Penny S. Mudrzynski Address: 6974 Norton Road, Elba NY 14058

1. Type of Application: ☑ Special Use Permit; ☑ Site Plan Approval ; ☐ Use Variance; ☐ Subdivision Approval
   (circle one or more)

2. Description of proposed project:
   Seeking to install a 5 MW solar array with associated electrical equipment, access road, fencing, and landscaping on an existing agricultural field.

3. Location of project: Address: 6982 Norton Road, Elba, NY 14058
   Tax Map Number (TMP) 9.-1-39.111

4. Is this parcel within an Agricultural District? ☐ NO ☑ YES (Check with your local assessor if you do not know)
5. If YES, Agricultural District Number 2 (Genesee County)
6. Is this parcel actively farmed? ☐ NO ☑ YES
7. List all farm operations within 500 feet of your parcel. Attach additional sheets if necessary.

Name: David G. and Joanne E. Cross Address: 5195 Bridge Road, Elba, NY 14058 Is this parcel actively farmed? ☐ NO ☑ YES	Name: Robert F. Bowen Address: 6870 Norton Road, Elba, NY 14058 Is this parcel actively farmed? ☐ NO ☑ YES
Name: Address: Is this parcel actively farmed? ☐ NO ☐ YES	Name: Address: Is this parcel actively farmed? ☐ NO ☐ YES

Christian Schlesinger Digitally signed by Christian Schlesinger Reason: I attest to the accuracy and integrity of this document Date: 2020.11.06 10:48:00-05'00'

Signature of Applicant

David G. Mudrzynski 11-5-20

Signature of Owner (if other than applicant)

Reviewed by: _____ 11/

Signature of Municipal Official — Date

NOTE TO REFERRAL AGENCY: County Planning Board review is required. A copy of the Agricultural Data Statement must be submitted along with the referral to the County Planning Department.

Full Environmental Assessment Form

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Norton Solar Project		
Project Location (describe, and attach a general location map): Town of Elba, New York		
Brief Description of Proposed Action (include purpose or need): An amendment to the special use permit/site plan solely to extend the time period for implementation and is generally unchanged from the previous approved project. Applicant contact information has been revised and as a result of utilizing an alternate panel, the project area decreased from 41.9 to 40.8 acres. As a result of the decrease in panels and acreage, sections associated with soils and acreages have been updated accordingly and the height of the panels was adjusted based on this change. The Project consists of the installation of a 5 MW solar array in the Town of Elba in Genesee County, for the purpose of creating renewable energy for the community power program. The Project activities will be located within an existing agricultural field, adjacent to roadways, other agricultural fields, residences and forested areas.		
Name of Applicant/Sponsor: FFP NY Elba Project1, LLC	Telephone: 617-431-1440 E-Mail: jdelaney@nexamp.com	
Address: 101 Summer Street, 2nd Floor		
City/PO: Boston	State: MA	Zip Code: 02110
Project Contact (if not same as sponsor; give name and title/role): Jennifer DeLaney, VP Channel Operations Nexamp	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Daniel & Penny Mudrzynski	Telephone: 525-757-9283 E-Mail: dgpsmud@gmail.com	
Address: 6974 Norton Road		
City/PO: Elba	State: NY	Zip Code:14058

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes ☐No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Town of Elba Planning Board (Site Plan Approval and Special Use Permit)	Amended application date: April 14, 2023
c. City, Town or Village Zoning Board of Appeals ☐Yes ☐No		
d. Other local agencies ☐Yes ☐No		
e. County agencies ☑Yes ☐No	Genesee County (referral to County from Town)	May 2023
f. Regional agencies ☐Yes ☐No		
g. State agencies ☑Yes ☐No	NYNHP (T&E species), SHPO (Historical properties); NYSDEC (SWPPP GP)	NYNHP: July 14, 2020 NYSDEC: April 2023 (file NOI)
h. Federal agencies ☑Yes ☐No	USFWS (T&E Species)	July 14, 2020

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

Portions of the Site are considered Strategic Farmland, and the Site is wholly located within NYS Agricultural District #2.

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes ☐No

If Yes, identify the plan(s):

Genesee County Smart Gwoth Plan, Genesee County Agricultural and Farmland Protection Plan

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No

If Yes, what is the zoning classification(s) including any applicable overlay district?

According to the Genesee County web mapping system, the Site is located within an A-R Agricultural-Residential zoning area.

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Elba Central School District

b. What police or other public protection forces serve the project site?

Genesee County Sheriff's Office, New York State Police

c. Which fire protection and emergency medical services serve the project site?

Elba Fire Department, Mercy Flight EMS

d. What parks serve the project site?

Elba Veterans Memorial Park, Byron Trestle Park, Byron Community Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial - Energy Generation

b. a. Total acreage of the site of the proposed action? 40.8 acres

b. Total acreage to be physically disturbed? 40.8 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 138.2 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No

i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No

If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No

i. If No, anticipated period of construction: _____ months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐Yes ☑No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 13,500

ii. Dimensions (in feet) of largest proposed structure: 20 height; 3 width; and 6 length

iii. Approximate extent of building space to be heated or cooled: 0 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

i*v.* Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐Yes ☐No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion:_____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐Yes ☑No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐Yes ☐No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No
- Do existing lines serve the project site? ☐Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☐No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐Yes ☑No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes ☐No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 0.014 acres (impervious surface)

_____ Square feet or 138.2 acres (parcel size)

ii. Describe types of new point sources. Solar panels, access roads, and equipment pads.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

_____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 6 pm
- Saturday: 7 am - 6 pm
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24 hours/day
- Saturday: 24 hours/day
- Sunday: 24 hours/day
- Holidays: 24 hours/day

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

_____

_____

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No

Describe: _____

_____

n. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

_____

_____

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☐ No

Describe: _____

_____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

_____

_____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:_____

_____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

_____

_____

_____

_____

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____

  _____
- Operation: _____

  _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____

  _____
- Operation: _____

  _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

_____

_____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

_____

_____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

_____

_____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

_____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

_____

_____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☑ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

_____

_____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	1.3	+1.3
• Forested	0	0	
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	
• Agricultural (includes active orchards, field, greenhouse etc.)	40.8	0	-40.8
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	
• Wetlands (freshwater or tidal)	0	0	
• Non-vegetated (bare rock, earth or fill)	0	0	
• Other Describe: Solar Energy Generation Facility (vegetated)	0	39.5	+39.5

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐Yes ☑No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No

If Yes:

i. Has the facility been formally closed? ☐Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☐No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes ☐No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☐ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 41 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Ontario Loam (3-8% Slope)	49.6 %
Niagara Silt Loam (0-2% Slope)	20.5 %
Hilton Loam (0-3% Slope)	15.1 %

d. What is the average depth to the water table on the project site? Average: 41 feet

e. Drainage status of project site soils:

☑ Well Drained:	62.0 % of site
☑ Moderately Well Drained:	11.3 % of site
☑ Poorly Drained	26.9 % of site

f. Approximate proportion of proposed action site with slopes:

☑ 0-10%:	99.6 % of site
☑ 10-15%:	0.2 % of site
☑ 15% or greater:	0.2 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name Unnamed Tributary of Spring Creek Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name NYSDEC Wetland Approximate Size 31.6
- Wetland No. (if regulated by DEC) BN-18

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑ Yes ☐ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____
Spring Creek and tributaries - unknown toxicity - aquatic life

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:

White tailed deer	Raccoon	Striped skunk
Woodchuck	Gray squirrel	Eastern chipmunk
Coyote	White-footed mouse	Red Rox

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

If Yes:

i. Species and listing (endangered or threatened): _____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:

i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☑ Yes ☐ No

If yes, give a brief description of how the proposed action may affect that use: Adjoining areas are private land and could be used for hunting; however, the proposed action should not have an effect on adjoining property usage.

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☑ Yes ☐ No

If Yes, provide county plus district name/number: Genesee County - Ag District #2

b. Are agricultural lands consisting of highly productive soils present? ☑ Yes ☐ No

i. If Yes: acreage(s) on project site? 40.8

ii. Source(s) of soil rating(s): Web Soil Survey, NRCS

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name FFP NY Elba Project1, LLC / Jennifer DeLaney Date April 17, 2023

Signature DocuSigned by: Jennifer DeLaney 23A2FBBFEF4F424... Title Vice President

PRINT FORM

NYSDEC New York Natural Heritage Program Memo

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

August 18, 2020

Terri Brown
Arcadis
50 Fountain Plaza, Suite 600
Buffalo, NY 14202

Re: Forefront Energy - Norton Solar Project (NY-20-0003)
County: Genesee Town/City: Elba

Dear Ms. Brown:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 8 Office, Division of Environmental Permits, at dep.r8@dec.ny.gov.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

802

NYSDEC Office of Parks, Recreation and Historic Preservation Memo

NEW YORK STATE OF OPPORTUNITY. Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

November 02, 2020

Terri Brown
Regulatory Compliance Specialist
Arcadis U.S., Inc.
50 Fountain Plaza
Suite 600
Buffalo, NY 14202

Re: DEC
Forefront Energy - Norton Solar Project (5MW/36.4 Acres of 138.2 Acre Parcel)
Norton Road, Town of Elba, Genesee County, NY
20PR04237
(NY-20-0003)

Dear Terri Brown:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

USFWS Consultation Memo and Determination

ARCADIS Design & Consultancy for natural and built assets

U.S. Fish and Wildlife Service
New York Ecological Services Field Office
3817 Luker Road
Cortland, New York 13045-9349
FW5ES_NYFO@fws.gov

Arcadis U.S., Inc.
50 Fountain Plaza
Suite 600
Buffalo
New York 14202
Tel 716 667 0900
Fax 716 842 2612
www.arcadis.com

Subject:
Forefront Energy – Town of Elba, New York
Norton Solar Project
Project Review Request

Environment

Date:
7/14/2020

Contact:
Rachel Smith

Phone:
716-667-6662

Email:
rachel.smith@arcadis.com

Our ref:
30052124

To Whom It May Concern:

On behalf of Forefront Energy, Arcadis seeks review from the United States Fish and Wildlife Service (USFWS) regarding potential impact to threatened or endangered species from the Norton Solar Project in the Town of Elba in Genesee County, New York (Project), as shown on the Attachment 1.

Arcadis has received a USFWS Official Species List from the Information, Planning, and Consultation (IPaC) system pertaining to the project. The results indicated that no endangered species are likely to be affected by this project.

Project Description

The Project consists of the installation of a solar array in the Town of Elba in Genesee County. The Project activities will be located within an existing agricultural field, adjacent to roadways, other agricultural fields, residences and forested areas. Project activities and access will be via agricultural fields, as such no tree clearing is anticipated.

Preliminary Habitat Evaluation

Based on the determination that the Project area does not contain any T&E species, Forefront Energy requests USFWS concurrence with this preliminary determination of no impact to T&E species by the Project activities.

If you have any questions, please feel free to contact me at rachel.smith@arcadis.com or 716-667-6662. I look forward to hearing from you.

Sincerely,

Rachel J. Smith
Arcadis – Project

Manager

Cc: Christian Schlesigner, Forefront Solar

Attachments

- IPaC Results

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: July 13, 2020
Consultation Code: 05E1NY00-2020-SLI-3620
Event Code: 05E1NY00-2020-E-10880
Project Name: Norton Solar Site - Elba, NY

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2020-SLI-3620

Event Code: 05E1NY00-2020-E-10880

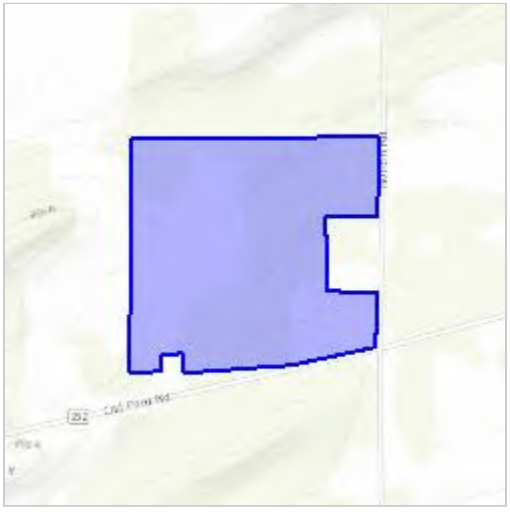
Project Name: Norton Solar Site - Elba, NY

Project Type: POWER GENERATION

Project Description: Planned solar array, with the Environmental Study Area (ESA) being approximately 135 acres.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.075721832315175N78.14569811771736W



Counties: Genesee, NY

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Hunter, Owen

From: Brown, Terri
Sent: Thursday, July 16, 2020 10:01 AM
To: Smith, Rachel
Subject: FW: [EXTERNAL] USFWS Project Review, National Grid Indeck Bundle Conductor Clearance Refurbishment Project

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From: Niver, Robyn <robyn_niver@fws.gov>
Sent: Thursday, July 16, 2020 10:00 AM
To: Brown, Terri <Terri.Brown@arcadis.com>
Subject: Fw: [EXTERNAL] USFWS Project Review, National Grid Indeck Bundle Conductor Clearance Refurbishment Project

We will not be responding to this project since no t/e species were reported on the official species list.
Thank you,
Robyn

****

Robyn A. Niver
Endangered Species Biologist
New York Field Office
3817 Luker Road
Cortland, NY 13045
607-299-0620
https://www.fws.gov/northeast/nyfo/index.html

From: Patch, Megan <megan_patch@fws.gov> on behalf of NYFO, FW5ES <fw5es_nyfo@fws.gov>
Sent: Tuesday, July 14, 2020 4:48 PM
To: Niver, Robyn <robyn_niver@fws.gov>
Subject: Fw: [EXTERNAL] USFWS Project Review, National Grid Indeck Bundle Conductor Clearance Refurbishment Project

Logged: 20TA3620

From: Brown, Terri <Terri.Brown@arcadis.com>
Sent: Tuesday, July 14, 2020 3:58 PM
To: NYFO, FW5ES <fw5es_nyfo@fws.gov>
Cc: Smith, Rachel <Rachel.Smith@arcadis.com>
Subject: [EXTERNAL] USFWS Project Review, National Grid Indeck Bundle Conductor Clearance Refurbishment Project

Good Afternoon,

Please find attached the project review request letter and the IPaC species list for the Forefront Energy Norton Solar Project located in the Town of Elba in Genesee County, New York

Please let us know if you have any questions, comments, or concerns. Thank you!

Terri Brown | Regulatory Compliance Specialist | Terri.Brown@arcadis.com
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50 Fountain Plaza Suite 600 Buffalo New York | 14202 | USA
T. +1 716 667 6643 | M. + 1 315 945 4568

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ARCADIS Design & Consultancy for natural and built assets

Agency Use Only [If applicable]

Project :

Date :

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land

Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1) ☐ NO ☑ YES

If "Yes", answer questions a - j. If "No", move on to Section 2.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☑	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☑	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☑	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☑	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☑	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☑	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☑	☐
h. Other impacts: _____ _____		☑	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____ _____		☐	☐

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) ☐ NO ☑ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☑	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☑	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☑	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☑	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☑	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☑	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☑	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☑	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☑	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☑	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☑	☐

l. Other impacts: _____		☑	☐

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: _____		☐	☐

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☐ NO ☑ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☑	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☑	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☑	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☑	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☑	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☑	☐

g. Other impacts: _____ _____		☑	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D.2.h, D.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: _____ _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☑ NO ☐ YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☐	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☐	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: _____ _____		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☐ NO ☑ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☑
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☑
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☑	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☑	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☑	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☑	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☑	☐
h. Other impacts: _____		☑	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____ _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☑ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: _____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: _____		☐	☐

13. Impact on Transportation
The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____		☐	☐

14. Impact on Energy
The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____			

15. Impact on Noise, Odor, and Light
The proposed action may result in an increase in noise, odors, or outdoor lighting. ☐ NO ☑ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☑	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☑	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☑	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☑	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☑	☐
f. Other impacts: _____ _____		☑	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☑ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: _____ _____			

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. ☐ NO ☑ YES
(See Part 1. C.1, C.2. and C.3.)
If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☑	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☑	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☑	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☑	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☑	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☑	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☑	☐
h. Other: _____ _____		☑	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. ☐ NO ☑ YES
(See Part 1. C.2, C.3, D.2, E.3)
If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☑	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☑	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☑	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☑	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☑	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☑	☐
g. Other impacts: _____ _____		☑	☐

PRINT FULL FORM

Agency Use Only [IfApplicable]

Project :

Date :

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

See attached narrative.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the _____ as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Norton Solar Project

Name of Lead Agency: Town of Elba Planning Board

Name of Responsible Officer in Lead Agency: Chuck Hoover

Title of Responsible Officer: Town of Elba Planning Board Chair

Signature of Responsible Officer in Lead Agency: Charles Hoover Date: 4/15/2021

Signature of Preparer (if different from Responsible Officer) LaBella Associates, D.P.C Date: April 14, 2021

For Further Information:

Contact Person:

Address:

Telephone Number:

E-mail:

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

Date: April 27, 2023

State Environmental Quality Review

NOTICE OF INTENT TO BECOME LEAD AGENCY

This Notice is issued pursuant to 6 NYCRR §617.6 of the Implementing Regulations that pertain to Article 8 (State Environmental Quality Review Act – SEQRA) of the Environmental Conservation Law.

The Planning Board (the "Elba Planning Board") of the Town of Elba, Genesee County, New York, intends to become the lead agency in the environmental review of the application of FFP NY Elba Project 1, LLC to amend the previously approved special permit and site plan for the construction and operation of a 5-megawatt ground-mounted solar farm and associated electrical appurtenances at 6982 and 6920 Norton Road, a proposed Type I action which is described below.

Enclosed is a copy of the Full Environmental Assessment Form prepared by the applicant. The accompanying amendment application and previously approved application for a special use permit and site plan review from the Elba Planning Board is available for download from the following site: https://www.dropbox.com/sh/jijcx7mgfge6j2t/AAB3BNkpQiskOZvIHB6C3Lk1a?dl=0.

Pursuant to 6 NYCRR §617.6, a lead agency must be designated within thirty (30) days of the date of this letter. If the Elba Planning Board does not receive a written reply from an interested or involved agency within this time period, the Planning Board will assume that it has the agency's consent to become the lead agency. However, in order to expedite the process, the Planning Board requests that all interested or involved agencies reply as soon as possible about whether or not they agree with the designation of the Planning Board as lead agency for this application.

NAME OF ACTION: **Norton Road Solar Farm**
Proposed by FFP NY Elba Project 1, LLC
101 Summer Street, 2nd Floor
Boston, MA 02110

DESCRIPTION OF ACTION:

The proposed project is construction of a 5-megawatt ground-mounted solar farm install a 5 MW solar array with associated electrical equipment, access road, fencing, and landscaping on a portion of an existing agricultural field at 6982 and 6920 Norton Road in Elba, NY. The solar photovoltaic (PV) system is proposed for installation within an approximate 40.8-acre site. The Project activities will be located within an existing agricultural field, adjacent to roadways, other agricultural fields, residences and forested areas. The pending application would amend the special permit and site plan approved in April 2021 to reduce the project footprint from 41.9 acres to 40.8 acres, increase the maximum solar panel height from 10 feet to 20 feet, and extend the special permit timeframe currently due to expire in December 2023.

If you do not object to the Elba Planning Board acting as lead agency in this project, please sign, date and return this letter to the contact listed below:

Date: May 2, 2023

Felipe A [illegible]
Signature

Genesee Co. Dept. of Planning
Department/Agency

CONTACT:

Trisha Werth
Town Clerk, Town of Elba
7 Maple Avenue
P.O. Box 295
Elba, New York 14058
Phone: (585) 757-6889
Fax: (585) 757-9064
E-Mail: townclerk@elbanewyork.com
Website: http://elbanewyork.com/

DISTRIBUTION:

Genesee County Planning Board
Genesee County Department of Planning
3837 West Main Street Road
Batavia, NY14020-9404
planning@co.genesee.ny.us

Regional Permit Administrator
NYS Department of Environmental Conservation
Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9519

NYSDEC-DFW
NY Natural Heritage Program
625 Broadway, 5th Floor
Albany, New York 12233-4757

NYS Office of Parks, Recreation, and Historic Preservation
P.O. Box 189
Waterford, New York 12188

FEAF PART 3
WITH NARRATIVE

Part 3: Evaluation of the Magnitude and Importance of Project Impacts and Determination of Significance

Town of Elba, New York
Norton Solar Project

The action proposed by Forefront Power (Applicant) involves the construction of an approximately 5-MW solar installation on a parcel that is currently utilized for agricultural purposes. The project includes an access drive and other ancillary facilities, including security fencing and landscaping as a visual buffer between adjoining uses and neighborhood properties. The Town of Elba Planning Board, as the designated Lead Agency under SEQR, has considered the impacts of short-term construction activities, as well as the long-term operation of the solar development, including decommissioning plans in preparing its determination of significance for the proposed action.

The Planning Board carefully reviewed the information and answers given in the Part 1 EAF by the Applicant. This information informed the Planning Board's preparation of the Part 2 EAF. In addition, the Part 1 EAF was circulated to the list of involved and interested agencies. Any comments from these agencies were taken into account in the Planning Board's consideration of its Determination of Significance. In order to assess whether the potential impacts identified by the Planning Board may have a significant adverse impact on the environment, the impacts reasonably expected to result from the proposed action were compared against the criteria for determining significance provided in 617.7 of the SEQR regulations.

Based on this analysis, the Planning Board has not identified any large, significant adverse impacts on the environment as a result of the proposed action. Instead, the potential impacts identified using the Part 2 of the EAF were found to be moderate or small in importance, particularly in consideration of their magnitude, geographic scope, irreversibility, duration, number of people affected, and probability. The Town of Elba Planning Board therefore issues a Negative Declaration for the project.

The following information has been provided to document the findings of the Planning Board with regard to the significance of potential environmental impacts.

A moderate adverse impact has been identified by the Planning Board as follows:

3.8 Impact on Agricultural Resources

The proposed action will occupy approximately 42 acres of agricultural land within Genesee County Agricultural District No. 2. Review of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey indicates that the approximately 42-acre project area consists of highly productive soils. Additionally, the proposed action may limit access to agricultural land on the project parcel for the duration of the project.

Although moderate impacts were identified in Part 2, none of the impacts were found to be significant.

For example, the installation of the solar panels is typically accomplished with little overall ground disturbance, as panels are driven in by screwpost or H-piles. It is anticipated that the project will be in operation for approximately 20 to 30 years, however, upon removal of solar facilities, the land occupied by the solar array will be returned to its pre-construction state, and can be utilized again for agricultural use; therefore, no irreversible impacts upon farmland or agricultural productivity are anticipated.

Additionally, the proposed action includes a Decommissioning Plan, including a financial security instrument, to protect the Town from a scenario in which the solar project is abandoned in place (i.e. the Town will have the financial wherewithal to remove the solar facilities in such an instance and return the land to productive agricultural or other use).

The following information is provided to document issues where small impacts have been identified for the proposed action.

3.1 Impact on Land

The proposed project will have a small impact on land. The proposed solar array will occupy a total of approximately 42 acres of agricultural land, however, ground disturbance will be minimal. Construction activities will be completed over the course of six to nine months, including the installation of a ground-mounted solar energy system of approximately 17,000 freestanding modules/panels, new electrical equipment, and accessories including fencing, electrical lines, access roads, and inverter/transformer equipment pads.

Review of the USDA Web Soil Survey indicates that approximately 95% of the project site includes slopes between 0-10%, and only approximately 5 % of the project site includes slopes between 10-15%. In addition, the project does not include any excavation, mining or dredging during construction activities, and no bedrock outcroppings are located on the project site. Based on the estimated construction period of six to nine months, impacts to land will be short-lived and minimal in nature. Additionally, given that the vast majority of the land is relatively flat, with moderately to well-drained soils and a water table more than 3 feet below the surface, no moderate to large impacts are anticipated.

3.3 Impact on Surface Water

A NYSDEC Class C Stream is located south adjacent to the project area. In addition, a Class 3 State Regulated Freshwater Wetland check zone for Wetland ID: BN-18 is located northwest adjacent to the project area. Stormwater runoff will be directed to on-site stormwater management facilities, designed per the NYSDEC Stormwater Manual, to avoid adverse stormwater runoff impacts to nearby wetlands. In addition, no construction activities are planned within the vicinity of nearby wetlands. As such, no significant impacts to wetlands have been identified.

3.5 Impact on Flooding

The project site is not located within a designated floodway, or a 100 or 500-year floodplain; however, the proposed project will create new impervious surface at the project site. Project features like solar panels, access roads, equipment pads and other paved or impervious surfaces, will likely result in an increase of stormwater runoff. As the project is currently designed, stormwater runoff will be directed on-site to proposed on-site stormwater management facilities, designed per the NYSDEC Stormwater Manual, prior to discharging off-site. As such, no significant adverse impact on flooding have been identified.

3.15 Impact on Noise, Odor, and Light

The proposed project could potentially impact noise in the community as a result of construction activities. Backup beepers on trucks, operating work vehicles, equipment transport and installation, and other related activities will likely produce above average noise levels at the project site during construction. However, construction activities will be completed over 6-9 months. Any impacts on noise will be temporary in nature and short in duration based on these types of activities. As such, no large impacts are anticipated.

3.17 Consistency with Community Plans

The proposed solar array is in contrast to the existing nearby properties, which include residential, agricultural, and vacant land. However, a solar array is allowed as a specially permitted use within the Agricultural-Residential (A-R) Zone, where this project is sited in the Town of Elba. Review of the Genesee County Smart Growth Plan 2019 Review Report (adopted 10/23/19) Development Maps for the Town of Elba indicate that the project site is located outside of Priority Development Areas and Reserved Development Areas as designated by the County.

In affiliation with the Genesee County Agricultural and Farmland Protection Plan (May 2017), the Town of Elba remains committed to "…reinforce and enhance agriculture in Genesee County, and strongly support efforts to maintain its vitality" (Genesee County Farmland Protection Plan, Page i.). It is not anticipated that the proposed action will induce significant new growth or promote development within the designated rural or residential areas. The purpose of this project is to generate clean, renewable energy for local residences and businesses and not as a means to stimulate development.

3.18 Consistency with Community Character

The development of the solar facilities on the proposed site would result in a distinct visual contrast with the existing rural and agricultural character of the Town of Elba. The uses surrounding the site of the solar installation primarily include undeveloped areas of plowed fields and agricultural crops, forested areas, roadways, and residences to the east and south. The landscaping proposed by the Applicant would be expected to mitigate visual impacts to these uses over time by providing a landscape buffer along the southern and eastern boundaries of the project. Proposed landscaping includes a combination of native evergreen tree species such as Balsam Fir, Eastern Red Cedar, or White Spruce, and native shrub species such as American Hazelnut, Gray Dogwood, American or Highbush Cranberry, or Nannyberry. While Route 262 (Ford Road) is more heavily traveled than some rural roads, this area of the County is not heavily populated and the number of people

potentially affected is relatively low. As a result, moderate to large impacts on community character are not anticipated.

In addition, the Planning Board notes positive environmental impacts resulting from the increase in the use and reliance upon renewable energy as a result of the proposed solar installation.

T-01-ELB-05-23

03/23/2021

Stormwater Pollution Prevention Plan
(Including Civil/Sitework Drawings)

FFP NY Elba Project1, LLC

Stormwater Pollution Prevention Plan

Norton Solar Project (NY-20-0003)
Elba, New York

March 2022
Revised: August 2022

Stormwater Pollution Prevention Plan

Norton Solar Project (NY-20-0003)
Elba, New York

March 2022
Revised: August 2022

Prepared By:
Arcadis U.S., Inc.
50 Fountain Plaza, Suite 600
Buffalo
New York 14202
Phone: 716 667 0900
Fax: 716 842 2612

Prepared For:
FFP NY Elba Project1, LLC
101 Summer Street
2nd Floor
Boston
Massachusetts 02110

Our Ref:
30064040

Contents

Appendices

1 Project Information

1.1 Introduction

On behalf of FFP NY Elba Project1, LLC, Arcadis of New York, Inc. (Arcadis) has prepared this Stormwater Pollution Prevention Plan (SWPPP) for the construction of a solar photovoltaic (PV) array system at 6982 Norton Road in the Town of Elba, Genesee County, New York (the "Site"). For detailed information regarding the design and planned construction activities, refer to the Norton Solar Project (NY-20-0003) Civil/Sitework Drawings (Technical Drawings) (Appendix D).

This SWPPP has been prepared pursuant to the New York State (NYS) Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001). The SWPPP objectives for the Site are to:

- Minimize the potential for erosion and conveyance of soil/sediment via surface runoff to downgradient on-site areas that are outside the limits of work and off-site areas.
- Minimize the potential for erosion and conveyance of soil/sediment via surface runoff such that water quality (visible turbidity) in downgradient water bodies is not significantly affected relative to pre-construction conditions.
- Minimize the potential for erosion and sediment migration within the work areas.
- Minimize the potential for mechanical tracking of soils/sediments onto off-site areas.
- Identify potential pollutants and their sources; eliminate, control, or otherwise manage each potential pollutant or its source using appropriate Best Management Practices (BMPs).

1.2 Project Description

The project involves the construction of a solar PV array consisting of fixed racking systems, associated electrical equipment (e.g., equipment pad, transformer, switchboard, and utility poles), a pervious gravel access road, perimeter fencing, and landscaping for screening measures.

The PV panels are designed to tilt to track the sun to improve efficiency; power feed wire from the panel rows to the electrical equipment pad locations will be installed below-grade. The underground conduit from these pads will run to utility poles near the site entrance. Aboveground wires will connect these utility poles to the existing electrical utility lines along Norton Road.

The spacing of the array rows is sufficient to allow for routine mowing 3 to 4 times during the growing season. The Site will be restored to a meadow condition, with the exception of the pervious gravel road, paved driveway entrance, and the concrete equipment pad. Existing trees and shrubs on the perimeter of the Site will be maintained to provide a screening barrier.

The Site area subject to the installation of the solar PV arrays and related construction activities is estimated to be approximately 40.8 acres. During the installation work, active construction areas that could contribute to the erosion and migration and tracking of soil/sediment will exceed 5 acres.

1.3 Existing Site Conditions

The project Site consists of a portion of an agricultural and residential parcel that was previously utilized for agricultural purposes. Site access will be via a new driveway entrance off Norton Road. Surrounding land use of the parcel consists of crop fields and wooded land which contains a stream to the north; crop fields, residential properties, and a stream that flows through adjacent fields to the east; residential houses and Route 262 (Old Ford Road) to the south; fields and wooded land to the west. For additional Site information, refer to the Technical Drawings provided in Appendix D.

Stormwater runoff generated within the project Site limits occurs primarily as sheet flow and travels generally to the east and southeast. The runoff to the in the northeastern sector of the Site enters a ditch along Norton Road and continues to flow south until it reaches an unknown tributary. Runoff in the southern portion flows east to Norton Road and is fed into the same tributary. Once the runoff enters this creek, it flows until it reaches Spring Creek. Slopes within the Site range from approximately 2 to 7%.

There are nine (9) forested/emergent marsh wetlands located within the project Site limits. The largest forested wetland is in the northwestern corner of the Site while the rest of the wetlands can be found in the southern portion. There is one (1) stream that flows between the wetlands located in the southern area of the Site. An additional stream (1) can be found outside of the parcel to the north flowing in a northeastern direction. Wetlands within and adjacent to the Site can be seen on the Technical Drawings (Appendix D).

1.4 Soils

The lands within the watershed consist predominately of former agricultural fields with hydrologic soil groups B and D and the dual hydrologic soil groups A/D, B/D, and C/D. If a soil is assigned to a dual hydrologic group, the first letter is for drained areas and the second is for undrained areas and only the soils that in their natural condition are in group D are assigned to dual classes. Soil types were identified based on information available from the United States Department of Agriculture's Web Soil Survey (Appendix A).

1.5 Potential Pollution Sources

The following is a list of potential pollutants that could impact stormwater quality during construction activities if not properly managed:

- Sediment
- Vehicle and equipment fluids (e.g., fuel, grease, coolant, oil)
- Vegetative debris from clearing operations
- Landscaping materials (e.g., mulch, fertilizer)
- General litter or other project-related waste

Appropriate BMPs will be used to reduce or eliminate the potential release of these pollutants, including sources of sediment in stormwater as described in the following Sections.

1.6 Project Permitting and Compliance

1.6.1 State Pollution Discharge Elimination System General Permit

This SWPPP has been prepared in accordance with the substantive requirements of the GP-0-20-001 (Appendix E). Activities included in this SWPPP require coverage under the GP-0-20-001 as this project will disturb more than one acre. A Notice of Intent (NOI) form was submitted to the NYSDEC for this project (Appendix C). The NOI will include SWPPP Preparer and project Owner/Operator certification forms.

1.6.2 Municipal Separate Stormwater Sewer System Permit

According to the NYSDEC MS4 online mapping, the Site is not located within a regulated MS4. Therefore, an MS4 SWPPP acceptance form will not be submitted to the NYSDEC with the NOI.

1.6.3 Office of Parks, Recreation and Historic Preservation Review

In accordance with the GP-0-20-001, any construction activities that have the potential to affect historic and/or archaeological resources are not eligible for coverage under the general permit unless the screening and consultation process specified in the Letter of Resolution that was developed between the NYSDEC and the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) has been completed and the required documentation demonstrating that potential impacts have been avoided or mitigated is obtained and maintained on-site. The review of New York State Historic Preservation Office (SHPO) publicly available data showed the Site lies within an archaeologically sensitive area. The review also showed that there were no registered historic resources within the vicinity of the Site. To confirm the findings, the project was submitted for review and on November 2, 2020, a response from NYS OPRHP indicated that the project will have no impact on any archaeological or historic resources. The findings from the OPRHP review are included with this SWPPP (Appendix G).

2 Construction Sequence

Refer to Drawing G-02 of the Technical Drawings (Appendix D) for a description of the anticipated construction sequence. Specific construction activity sequencing may vary depending on field conditions encountered at the time of construction, and any implemented changes to the construction sequence will be completed in compliance with applicable regulatory requirements and the overall objectives described in Section 1.1.

3 Erosion and Sediment Control Plan

The Contractor will be responsible for installing and maintaining all temporary erosion and sediment control measures required during project construction activities. All erosion and sediment controls will be installed and maintained in accordance with the latest edition of the NYS Standards and Specifications for Erosion and Sediment Control (NYS Standards and Specifications). Erosion and sediment control BMPs specific to this project are provided on the Technical Drawings (Appendix D). Temporary erosion and sediment control measures will be installed prior to initiation of soil disturbing activities. The Contractor will also be responsible for providing additional erosion and sediment control measures, as needed, or as directed, to achieve the stormwater management objectives of this SWPPP and maintain compliance with this SWPPP.

3.1 Erosion and Sediment Control Measures

Technical Drawings C-02, C-07, and C-08 (Appendix D) provide information regarding the types, locations, and specifications of erosion control measures for the project.

Additional erosion and sediment control measures considered for implementation at the Site that are not specifically identified in the Technical Drawings are included below.

3.1.1 Site Planning and Prevention Measures

The following site planning and prevention measures will be implemented for effective temporary (during construction) and final (post construction) erosion control:

- Temporary soil stockpiles (e.g., stone, topsoil), if needed, will be located in areas of the Site where the stockpiles can be protected from significant runoff that could result in washout and erosion of the stockpiled material. Sediment controls established around the full perimeter of the stockpiles may be required at downgradient locations to prevent migration of saturated soils.
- The Contractor and Developer's on-site Representative and/or the Engineer will work together to properly plan and sequence construction events to effectively minimize the duration that erodible soil and stockpiled materials are exposed.
- For areas consisting of less than 5 acres of disturbed soil: In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, NYS Standards and Specifications.
- For areas consisting of greater than 5 acres of disturbed soil: In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, NYS Standards and Specifications for Erosion and Sediment Control, dated November 2016.

3.1.2 Construction Road and Parking Area Stabilization

The Site will be accessed off Norton Road. Parking will not be permitted on bare soil or vegetated areas unless agreed to by the Developer's on-site Representative and/or the Engineer. Parking areas will be designated and communicated to all personnel.

3.1.3 Dust Controls

Dust controls may include applying water to exposed soils from a water truck, an on-site water tank, or other approved water source, limiting vehicle speeds, sweeping paved roadways, and mulching bare soil areas. These activities will be implemented as needed based on observed conditions, or as directed by the Developer's on-site Representative and/or the Engineer during construction, to reduce the potential for dust generation. Water for dust suppression will be applied such that runoff or excessive soil saturation does not result in soil erosion or sediment transport.

If necessary, other methods and means for controlling dust (e.g., soil binders) may be considered. Such measures will be reviewed for acceptability by the Developer's on-site Representative and/or the Engineer prior to use by the Contractor.

3.1.4 Good Housekeeping Practices

Good housekeeping measures will be implemented to reduce the potential for construction materials to enter stormwater drainage from the Site. During construction, the Contractor will be responsible for maintaining the Site in a neat and orderly fashion. This will include, but not necessarily be limited to, the following:

- Routine waste management activities, including the collection and disposal of trash, construction waste, and sanitary wastes.
- Immediate cleanup of spills of liquid or dry materials (if any).
- Prompt cleanup (i.e., as soon as possible, but by the end of workday) of notable accumulations of sediments (if any) inadvertently tracked by construction vehicles and/or transported by wind or stormwater from active work areas to non-work areas of the Site or off-site areas.

3.1.5 Vehicle Maintenance and Material Storage Area

The Contractor will perform routine vehicle/equipment maintenance activities and will store and manage construction materials (such as fuels, fertilizers, BMP materials) in designated areas to prevent their potential release to stormwater drainage. Any fuels or fluids must be properly covered, contained, and/or placed in a temporary shed or enclosure.

3.1.6 Topsoil Placement

For topsoil and seeding specifications refer to Technical Drawing G-02 in Appendix D.

3.1.7 Surface Roughening

Surface roughening will aid in the establishment of vegetative cover from seed, reduce runoff velocity and increase infiltration, and trap sediment. Surface roughening includes creating horizontal grooves across a slope (i.e., perpendicular to the downslope direction) using a spike-tooth harrow, tilling equipment, disking attachments, or tracking the area with appropriate construction equipment. The type of surface roughening techniques will be determined in the field by the Contractor and the Developer's on-site Representative and/or the Engineer.

3.2 Inspection and Maintenance of Erosion and Sedimentation Controls

3.2.1 Inspection and Contractor Notification Requirements

Inspections of erosion and sediment controls will be performed to confirm that this SWPPP is being implemented and remains functional relative to site conditions and actual project activities. Prior to land disturbing activities (excluding installation of erosion and sediment control practices), a Qualified Inspector (see Section 3.2.5) will perform a pre-construction site assessment to verify that erosion and sediment controls are properly installed and functional.

During construction activities, all erosion and sediment control practices and pollution prevention measures implemented within the active work area will be inspected daily by a Trained Contractor (as specified in Section 3.2.5) to ensure that they are being maintained in effective operating conditions at all times. If deficiencies are identified, the Contractor (or subcontractors) will begin implementing corrective actions within one (1) business day and shall complete the corrective actions in a reasonable time frame.

Throughout the active construction period, a Qualified Inspector (see Section 3.2.5) will conduct inspections of all site areas affected by construction at least once every 7 calendar days. If more than five (5) acres of soil is disturbed, inspection frequencies will increase to at least twice every 7 calendar days. These two (2) inspections will be separated by a minimum of two (2) full calendar days. At a minimum, the Qualified Inspector will inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management (PCSM) practices (if applicable) under construction to ensure that they are constructed in conformance with this SWPPP until such time as the Site is deemed sufficiently stable and no longer requiring inspection. Inspections include all disturbed areas that have not achieved final stabilization, all points of discharge to natural surface waterbodies within or immediately adjacent to the Site, and all points of stormwater discharge from the Site. After each inspection, the Qualified Inspector will prepare an inspection report in accordance with Section 3.3. Within one (1) business day of the completion of an inspection, the Qualified Inspector will notify the Developer's on-site Representative and/or the Engineer and appropriate Contractor (or subcontractors) of any necessary corrective actions. The Contractor (or subcontractor) will begin implementing the corrective actions within one (1) business day of the inspection notification and will complete the corrective action in a reasonable time frame, unless a modified timetable is approved by the Developer's on-site Representative and/or the Engineer.

3.2.2 Inspections During Shutdown

In the event project activities are temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the Qualified Inspector will conduct a site inspection at least once every 30 calendar days. The Developer's Representative will notify the Division of Water (DOW) Water (SPDES) Program contact at the Regional Office (317 Washington Street, Watertown, NY 13601), in writing prior to reducing the inspection frequency. Additionally, the Qualified Inspector can discontinue these inspections if all disturbed areas of the site (as of the project shutdown date) have achieved final stabilization and all PCSM practices (if applicable) have been constructed in conformance with this SWPPP and are operational.

3.2.3 Maintenance Requirements

Maintenance or repair of installed erosion and sediment controls will be initiated within 1 business day following notification of deficiencies unless a modified timetable is approved by the Developer's on-site Representative and/or the Engineer and completed in a reasonable timeframe (i.e., prior to the next scheduled inspection). Erosion and sediment control measures will be maintained for the duration of the project until such time as all permanent stabilization measures have become fully established and a satisfactory final Site inspection (described in Section 3.4) has been performed by a Qualified Inspector.

3.2.4 Contractor Compliance Certification

The Contractor and subcontractors are required to certify that their respective activities will comply with the relevant portions of this SWPPP. All such certifications will be in writing and retained at the Site with the SWPPP document. The Contractor certification statement and signature page are included with this SWPPP (Appendix B). In accordance with Part III.A.6 of GP-0-20-001, all Contractors and subcontractors must provide contact information and describe the elements of this SWPPP they are responsible for.

3.2.5 Training Requirements

The Contractor and subcontractors involved in soil-disturbing activities will identify at least one person from their company that will be responsible for inspection of the SWPPP components defined herein. This individual will have completed the requirements to be considered a "Trained Contractor" in accordance with GP-0-20-001, meaning they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. At least one Trained Contractor must be on-site daily when soil-disturbing activities are being performed. Note that the Trained Contractor cannot perform the duties of the Qualified Inspector unless the Trained Contractor also meets the Qualified Inspector qualifications.

The Qualified Inspector will meet the requirements of GP-0-20-001, meaning they will be a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, NYSDEC-endorsed individual, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity.

3.3 Recordkeeping

The following reporting and recordkeeping requirements will be followed for the project:

- SWPPP (and related documents) – a copy of this SWPPP, NOI, NOI Acknowledgement Letter, inspection reports, contractor compliance certification, and any other relevant documents will be retained on-site for the duration of project construction activities. These documents will be retained in a secured location readily available to individuals performing compliance inspections.
- Weekly Inspections Reports – the construction area will be inspected at a minimum of once every 7 calendar days or twice every 7 calendar days if more than five acres of soil remain disturbed (see Section 3.2.1). Inspection reports will be prepared by a Qualified Inspector after every inspection. At a minimum, the inspection report shall include and/or address the following:
  - Date and time of inspection.
  - Name and title of person(s) performing the inspection.
  - A description of the weather and soil conditions (e.g., dry, wet, saturated) at the time of inspection.
  - A description of the condition of the runoff at all points of discharge from the construction site, including any discharges of sediment and discharges from conveyance systems (i.e., pipes, culverts, and ditches) and overland flow.
  - A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody.
  - Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance.
  - Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced.
  - Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection.
  - Current phase of construction of all PCSM practices (if applicable), and identification of construction that is not in conformance with this SWPPP and technical standards.
  - Corrective action(s) that must be taken to install, repair, replace, or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the installation of the PCSM practice(s) (if applicable).
  - Identification and status of all corrective actions that were required by previous inspection.
  - Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The Qualified Inspector shall attach paper color copies of the digital photographs to the inspection report being maintained on-site within seven (7) calendar days of the date of the inspection. The Qualified Inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The Qualified Inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

All inspection reports will be signed by the Qualified Inspector and copies maintained on-site as described above.

- Records Retention – copies of this SWPPP, NOI, NOI Acknowledgement Letter, and any reports submitted or prepared in conjunction with this SWPPP will be retained by the facility owner/operator for a period of at least 5 years from the date that the NYSDEC receives the Notice of Termination.
- SWPPP Updates – the SWPPP will accurately document all erosion and sediment control practices and pollution prevention measures being implemented at the Site. The SWPPP will be amended, at a minimum:
  - Whenever the current provisions are ineffective in minimizing pollutants in stormwater discharges from the Site.
  - Whenever there is a change in design, construction, or operation at the construction site that has the potential to effect stormwater discharge.
  - To address issues of deficiencies identified during an inspection by the Qualified Inspector or other regulatory authorities.

3.4 Site Restoration

A final Site inspection will be performed and documented by the Qualified Inspector to verify that all disturbed areas are suitably stabilized (i.e., uniform perennial vegetative cover with at least 80 percent density, permanent landscape mulches, or impervious cover [e.g., asphalt, concrete]). Final stabilization will be implemented in accordance with NYS Standards and Specifications and the Technical Drawings (Appendix D). If disturbed areas are not sufficiently stabilized, measures will be implemented to correct the substandard areas and a second final Site inspection will be performed. Following successful completion of the final site stabilization, the Contractor will remove any temporary erosion and sediment control features that are no longer needed, as appropriate.

4 Pollution Prevention Controls

4.1 General

In addition to the good housekeeping practices described under Section 3.1.4, the Contractor will implement measures to prevent spills from occurring and to properly respond to spills/spill-related emergencies. The Contractor will also adhere to all applicable regulations and the Developer's site management procedures in the event of a spill.

At a minimum, the following pollution prevention procedures will be implemented by the Contractor during construction.

4.2 Spill Prevention Plan

Prior to mobilization, all mechanical equipment scheduled for delivery to the Site, will be visually inspected by the Contractor for, but not limited to, potential sources of spills or leakage of hydraulic fluid, engine oil, transmission fluid, fuel, and grease (e.g., by inspecting the condition of hydraulic cylinders, hoses, gaskets, fuel tanks). For potential sources that are identified, the Contractor will remove and replace the subject equipment and/or make available on-site the necessary materials to manage the source and impacted area in the event of a spill or leakage. At a minimum, the Site will be equipped with at least one spill kit consisting of sorbents, absorbent booms, and fire extinguishers. In the event of a spill or leakage, the Contractor will be responsible for safely mitigating the source condition and removal/disposal of any impacted materials.

The Contractor will take the following precautions to minimize the potential for spills of fuel or lubricants during the construction activities. At a minimum, these precautions will include:

- Placing secondary containment measures around all fuel and lubricant storage tanks/units.
- Performing refueling activities on level ground within vehicle/equipment maintenance and fueling area, which is away from steep slopes and runoff conveyance features (e.g., ditches, storm sewers).
- Not leaving equipment unattended during refueling.
- Smoking, snacking, eating, etc., only in areas designated for such activities, that are located away from the refueling area.
- Not refilling fuel tanks while the engine is running.
- Replacing fuel caps immediately after filling and before starting the engine.
- Securing fuel pump dispensers when not in use to avoid accidental fuel release.
- Performing inspections and tests of equipment and portable fuel tanks to check for leaks and evaluate the condition of hydraulic hoses and connections. If leaks are observed, transfer the contents to an alternate tank/storage unit and replace the equipment/tank or repair the leak, as appropriate.
- Maintaining all equipment in accordance with the manufacturer's specifications.
- Operating all vehicles and equipment safely and park them a safe distance away from site hazards and sensitive resources.

4.3 Spill Response Plan

The Contractor will be responsible for implementing appropriate spill response procedures when responding to releases of, but not limited to, oil, products, and materials during the performance of construction activities. All spills will be immediately reported by the Developer's Representative to federal, state, and local agencies as required, as well as the personnel listed below:

- Contractor's Project Manager
- Engineer

Names and phone numbers of these personnel will be included in a phone number list. Reporting requirements of spills to necessary agencies will be in accordance with applicable regulations. The Contractor will be responsible for implementing appropriate spill response procedures, which may include the following:

1. Ceasing operation of the affected equipment: This will consist of shutting off the equipment and/or closing any valves and stopping the leak, if possible.
2. Containing the spill: If the spilled material is floating on a water surface, spill-absorbent pads/booms will be placed across the path of the floating spill. If the spilled material sinks below the water surface, a dam, weir, or other containment method will be used to stop the flow of the spilled material. If the spill occurs on land, a ditch, dam, or other containment unit will be constructed to stop the flow of the spilled material. Absorbent material will be applied as necessary.
3. Cleaning up the spill: Spills in water will be recovered using, but not limited to, pumps and sorbent material, as necessary, until the spilled material is recovered (and no sheen or other evidence of the spill is observed on the water surface). Spills on land will be recovered using pumps, sorbent material, hand tools, and/or heavy equipment, as necessary, until the spilled material is recovered. Other activities to be performed during spill cleanup activities include removing impacted soil/sorbent pads and using rags and cleaning solution to remove excess spilled material from equipment.
4. Containerizing spill materials: Spilled materials, including, but not limited to, impacted soil and sorbent pads will be containerized in NYS Department of Transportation-approved containers. The containers will be labeled with the waste type and date of accumulation in accordance with applicable regulations. Samples will be collected to characterize the spilled materials for disposal, as required.
5. Disposing of spill materials: Impacted materials and spill cleanup debris will be disposed at a facility permitted to accept such materials.
6. Performing post-spill maintenance: Following cleanup of the spill, the Contractor's project manager will verify that all used spill cleanup material and equipment has been disposed or decontaminated, as appropriate. If the equipment that caused the spill cannot be properly repaired, replacement equipment will be obtained.

4.4 Emergency Coordination Plan

In the event of a spill and/or emergency, the Contractor's project manager will complete (at a minimum) the activities described below:

- Immediately notify appropriate site personnel (i.e., Developer's on-site Representative).
- Inform site personnel of any potential hazards and required levels of personal protective equipment to conduct the cleanup.

- Record the following information pertaining to the spill:
  - Name of the person(s) who identified and reported the spill incident
  - Date, time, and location (include address of the spill incident)
  - Brief description and cause of the spill incident
  - Estimated quantity and type of material spilled
  - Extent and description of impacts to soil, sediment, and water from the spill
  - Any damages or injuries related to the spill
  - Actions (completed of continuing) to stop, remove, and mitigate the effects of the discharge.

If there is an immediate threat to human health and/or the environment, the Contractor will promptly notify the appropriate authorities (i.e., local police, fire departments, hospitals, and state and local emergency response teams). As indicated above, the Developer's Representative will coordinate spill reporting to the appropriate agencies (e.g., NYSDEC).

4.5 Contact Personnel

The Contractor will prepare a list of contact names and phone numbers for the following personnel and/or organizations:

- Developer (primary contact)
- Developer's on-site Representative
- Engineer (Arcadis for Site Civil Components)
- Contractor on-site lead personnel (Site supervisor)
- Local hospital
- Local ambulance service
- Local fire department
- Local, county, and state police department

5 Post-Construction Stormwater Management

5.1 Water Quantity Control

A hydrologic analysis was performed to determine the effects, if any, of installing the PV arrays and associated electrical equipment on the stormwater runoff peak flow from the Site. Changes in surface cover types due to the construction of the proposed solar facilities (from agricultural field to meadow, pervious gravel, and impervious concrete and array piers) are estimated to result in a decrease in the composite runoff curve number from 79 to 71. The peak runoff from the 1-year, 10-year, and 100-year storm events decreases by approximately 38% at a minimum compared to pre-construction conditions. The hydrologic analysis is presented in the Stormwater and Erosion Control Analysis (Attachment 6).

Since the peak flow from the Site decreases, this project does not require post-construction stormwater management measures for water quantity control.

5.2 Water Quality Control

The Site will require water quality control for the proposed traditional impervious surfaces (i.e., concrete equipment pads) in accordance with the NYSDEC Memo “Solar Panel Construction Stormwater Permitting/SWPPP Guidance” (Attachment 10). A bioretention area designed in accordance with the NYS Stormwater Management Design Manual will be installed at each equipment pad location to address runoff from the impervious area. Details on the bioretention measures can be found in the Technical Drawings (Attachment 4). Calculations used in sizing the bioretention areas are presenting in the Stormwater and Erosion Control Analysis (Attachment 6).

As part of planned site restoration activities, permanent surface stabilization measures (e.g., vegetation) will be implemented to provide long-term erosion control. Details on the permanent stabilization measures can be found in the Technical Drawings (Attachment 4).

Appendix A

Soil Resource Report

United States Department of Agriculture

NRCS

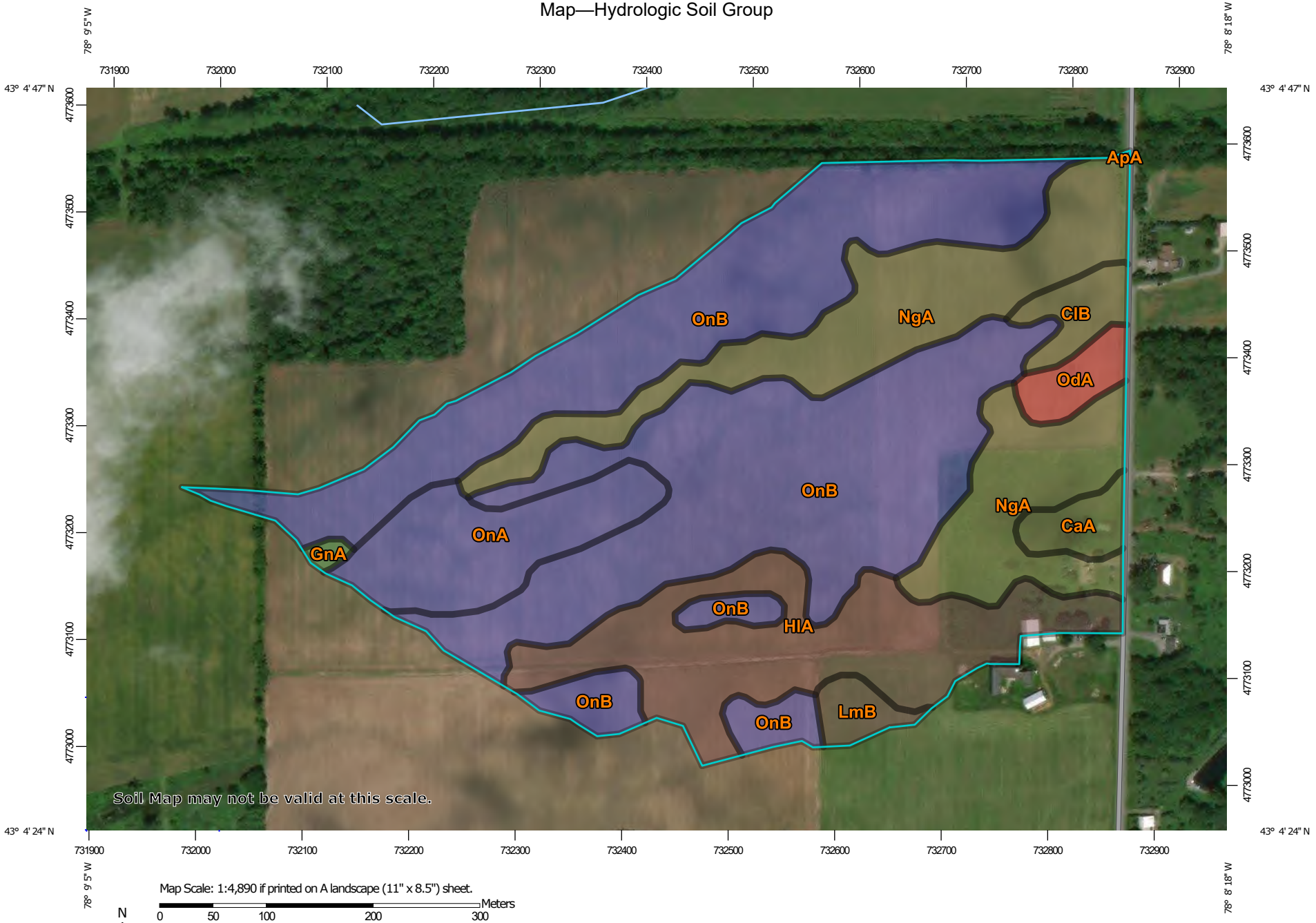
Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Genesee County, New York

December 3, 2020

Map—Hydrologic Soil Group



Map Scale: 1:4,890 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 21, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 18, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ApA	Appleton silt loam, 0 to 3 percent slopes	B/D	0.0	0.0%
CaA	Canandaigua silt loam, 0 to 2 percent slopes	C/D	1.3	1.7%
ClB	Collamer silt loam, 2 to 6 percent slopes	C/D	1.5	2.0%
GnA	Galen very fine sandy loam, 0 to 2 percent slopes	A/D	0.2	0.3%
HlA	Hilton loam, 0 to 3 percent slopes	B/D	11.3	15.1%
LmB	Lima silt loam, 3 to 8 percent slopes	B/D	1.0	1.4%
NgA	Niagara silt loam, 0 to 2 percent slopes	C/D	15.3	20.5%
OdA	Odessa silt loam, 0 to 3 percent slopes	D	1.3	1.8%
OnA	Ontario loam, 0 to 3 percent slopes	B	5.8	7.7%
OnB	Ontario loam, 3 to 8 percent slopes	B	37.1	49.6%
Totals for Area of Interest			**74.9**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B

Contractor Compliance Form

CONTRACTOR AND SUBCONTRACTOR CERTIFICATION/AGREEMENT

Project Title: _____

Site Location: _____

Operator: _____

As a contractor/subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the construction site.

Each contractor/subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

> **"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations."**

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of Construction Services to be provided: _____

Elements of SWPPP for which my Company is responsible: _____

_____

_____

_____

Name and Title of trained individual(s) responsible for SWPPP implementation

Name: _____

Title: _____

Signature: _____

Date:_____

Appendix C

Notice of Intent

Table of Contents

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.35

(Submission #: HPR-9465-69N28, version 1)

Details

Originally Started By	Owen Hunter
Alternate Identifier	Norton Solar Project (NY-20-0003)
Submission ID	HPR-9465-69N28
Submission Reason	New
Status	Draft
Active Steps	Form Submitted

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
FFP NY Elba Project1, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Mikheyeva

Owner/Operator Contact Person First Name
Svetlana

Owner/Operator Mailing Address
101 Summer Street, 2nd Floor

City
Boston

State
MA

Zip
02110

Phone
617-431-1440

Email
smikheyeva@nexamp.com

Federal Tax ID
86-2211120

Project Location

Project/Site Name
Norton Solar Project (NY-20-0003)

Street Address (Not P.O. Box)
6982 Norton Road

Side of Street
West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Town of Elba

State
NY

Zip
14058

DEC Region
8

County
GENESEE

Name of Nearest Cross Street
Ford Road (NYS Route 262)

Distance to Nearest Cross Street (Feet)
2000

Project In Relation to Cross Street
North

Tax Map Numbers Section-Block-Parcel
9.1-39.111

Tax Map Numbers
NONE PROVIDED

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
43.07685414558258,-78.14393349767882

Project Details

2. What is the nature of this project?
New Construction

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Cultivated Land

Post-Development Future Land Use
Clearing/Grading Only

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
NONE PROVIDED

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
40.8

Total Area to be Disturbed (acres)
40.8

Existing Impervious Area to be Disturbed (acres)
0

Future Impervious Area Within Disturbed Area (acres)
0.0138

5. Do you plan to disturb more than 5 acres of soil at any one time?
Yes

---

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
0

B (%)
62

C (%)
0

D (%)
38

7. Is this a phased project?
No

8. Enter the planned start and end dates of the disturbance activities.

Start Date
04/03/2023

End Date
12/31/2024

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Unnamed tributary to Spring Creek

9a. Type of waterbody identified in question 9?
Stream/Creek Off Site

Other Waterbody Type Off Site Description
N/A

9b. If "wetland" was selected in 9A, how was the wetland identified?
NONE PROVIDED

10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
No

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

16. What is the name of the municipality/entity that owns the separate storm sewer system?
Town of Elba

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

19. Is this property owned by a state authority, state agency, federal government or local government?
No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)
No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?
Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
Michael Higgins

Contact Name (Last, Space, First)
Smith, Rachel

Mailing Address
50 Fountain Plaza, Suite 600

City
Buffalo

State
NY

Zip
14202

Phone
716-667-6662

Email
rachel.smith@arcadis.com

Download SWPPP Preparer Certification Form
Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
swpppcert_unsigned.pdf - 04/13/2023 04:30 PM
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural
Dust Control
Stabilized Construction Entrance

Biotechnical
None

Vegetative Measures
Mulching
Protecting Vegetation
Seeding
Topsoiling

Permanent Structural
Land Grading
Rock Outlet Protection

Other
compost filter sock, pervious access road, bioretention basin

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Preservation of Undisturbed Area
Preservation of Buffers
Reduction of Clearing and Grading
Locating Development in Less Sensitive Areas

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
0.0011

29. Post-construction SMP Identification
Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
0.0011

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
Yes

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
NONE PROVIDED

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?
NONE PROVIDED

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs
Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
NONE PROVIDED

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)
NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

36a. The need to provide channel protection has been waived because:
NONE PROVIDED

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
NONE PROVIDED

Post-Development (CFS)
NONE PROVIDED

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
NONE PROVIDED

Post-Development (CFS)
NONE PROVIDED

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance
ForeFront Power, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
The project site is proposed to be a solar array facility on existing agricultural lands. IN accordance with the NYSDEC Memo "Solar Panel Construction Stormwater Permitting/SWPPP Guidance", a solar panel project is considered to be "land clearing and grading for the purposes of created vegetated open space (i.e., recreational parks, lawns, meadows, fields)". The project site meets the requirements of the memo with the exception of Item 5 and therefore, per the memo, the SWPPP must address post-construction stormwater management controls for the impervious areas of the project. The proposed bioretention facilities will provide the required RRv and WQv.

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs
Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
0.0138

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide

SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
None

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
No

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
NONE PROVIDED

MS4 SWPPP Acceptance Form Download
Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
NONE PROVIDED
Comment
NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download
Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form
constnoioocert_unsigned.pdf - 04/13/2023 04:29 PM
Comment
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
4/13/2023 4:30 PM	swpppcert_unsigned.pdf	Attachment	Owen Hunter
4/13/2023 4:29 PM	constnoioocert_unsigned.pdf	Attachment	Owen Hunter

Status History

	User	Processing Status
2/7/2023 10:39:47 AM	Owen Hunter	Draft

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Form Submitted		
Under Review	DAVID GASPER	
Under Review	Daniel von Schilgen	

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

Norton Solar Project (NY-20-0003)

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

FFP NY Elba Project 1, LLC

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Michael	B	Higgins
First name	MI	Last Name

Michael Higgins Jr.

Signature

April 14, 2023

Date

Revised: January 2020

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: Norton Solar Project (NY-20-0003)

eNOI Submission Number: HPR-9465-69N28

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

Appendix D

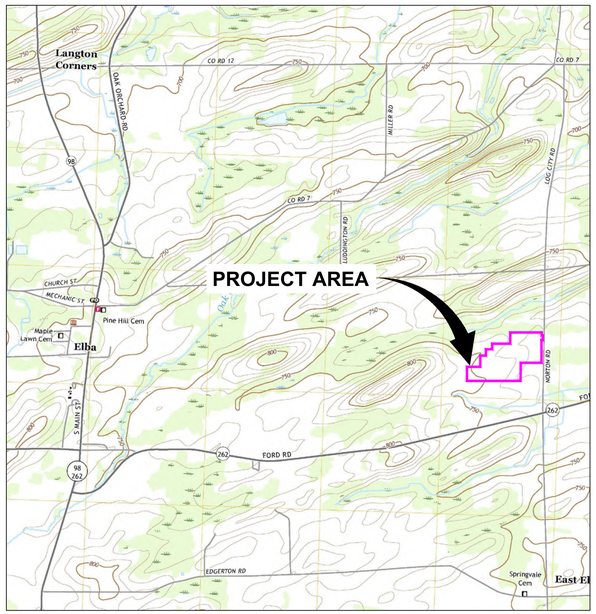
North Solar Project (NY-20-0003) Civil/Sitework Drawings

TECHNICAL DRAWINGS

NORTON SOLAR PROJECT (NY-20-0003)
CIVIL/SITEWORK DRAWINGS

TOWN OF ELBA
GENESEE COUNTY, NEW YORK

MARCH 2023

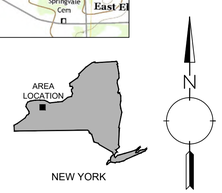


REFERENCE: BASE MAP USGS 7.5 MINUTE QUADRANGLE, BATAVIA NORTH, NY 2019

LOCATION MAP

0 2000' 4000'

GRAPHIC SCALE



INDEX TO DRAWINGS

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR DATE

nexamp

FFP NY ELBA PROJECT1, LLC AND ITS AFFILIATES, ALL RIGHTS RESERVED
101 SUMMER ST., 2ND FLOOR
BOSTON, MA 02110
(617) 431-1440
www.nexamp.com

ARCADIS
ARCADIS U.S., INC.
50 FOUNTAIN PLAZA
SUITE 600
BUFFALO, NY 14202
(315) 671-9545
www.arcadis.com

STAMP:

NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
COVER SHEET

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
AS NOTED

SHEET NO.:
G-01

C:\Users\ohunter\ARCADIS\Forefront NY Solar Costs - General\NY-20-0003 (Norton)\CAD\01-DWG\Norton_G_Cover & Notes.dwg

Printed: 4/13/2023 2:37 PM

ANTICIPATED CONSTRUCTION SEQUENCE:

THE NORTON SOLAR PROJECT (NY-20-0003) IS ANTICIPATED TO BEGIN IN SPRING OF 2023. LIMITED BULK EARTH DISTURBANCE SHALL BE CONDUCTED ASSOCIATED WITH THIS PROJECT. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE DISTURBANCE DURING CONSTRUCTION ACTIVITIES.

WORK EFFORT WILL BE SUBDIVIDED INTO CATEGORIES AND PERFORMED BY SPECIALIZED CREWS (E.G., SITE PREPARATION/CLEARING, ACCESS ROAD INSTALLATION, RACKING SYSTEM INSTALLATION, PV ARRAY INSTALLATION, ELECTRICAL INSTALLATION, ETC.). EACH CREW WILL PROGRESS IN A LOGICAL MANNER, GENERALLY FROM THE FURTHEST LOCATION FROM THE ACCESS ROAD TO THE CLOSEST. THE PERIOD BETWEEN INSTALLATION ACTIVITIES AND FINAL STABILIZATION SHALL BE MINIMIZED TO THE EXTENT PRACTICABLE. THE ANTICIPATED SEQUENCE OF CONSTRUCTION ACTIVITIES ARE DESCRIBED BELOW.

ANTICIPATED CONSTRUCTION ACTIVITIES:

1. AT LEAST 2 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING EARTH DISTURBANCE ACTIVITIES INTO AN AREA PREVIOUSLY UNMARKED FOR UTILITIES, NOTIFICATION SHALL BE MADE TO DIG SAFELY NEW YORK, INC. AT 1-800-962-7962 OR 811 FOR THE FIELD LOCATION AND MARKING OF EXISTING UNDERGROUND UTILITIES.
2. MARK THE APPROVED LIMITS OF DISTURBANCE (I.E., CONSTRUCTION BOUNDARIES) AND FLAG THE LOCATIONS OF FOREIGN UTILITIES.
3. MARK OR FENCE FOR PROTECTION ANY ENVIRONMENTALLY SENSITIVE AREAS.
4. MOBILIZE CREWS, FACILITIES, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE CONSTRUCTION.
5. PHASE 1 OF CONSTRUCTION WILL CONSIST OF GRADING AND FILLING OF THE ENTRANCE TO THE SOLAR FACILITY AS SHOWN ON THESE DRAWINGS. APPROXIMATELY 750 CUBIC YARDS OF MATERIAL WILL BE IMPORTED TO THE SITE FOR CONSTRUCTION OF THE ACCESS ROAD ENTRANCE. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. PRIOR TO COMMENCING THESE GRADING OPERATIONS, SEDIMENT FILTER DEVICES SHALL BE INSTALLED DOWNGRADIENT OF THE GRADING AREA WHERE NECESSARY/APPROPRIATE.
6. INSTALL SEDIMENT FILTER DEVICES (E.G., COMPOST FILTER SOCKS) AT THE LOCATIONS SHOWN ON THESE DRAWINGS AND DOWNGRADIENT OF EARTH DISTURBANCE ACTIVITIES WHERE NECESSARY/APPROPRIATE.
7. IN EXCAVATION AREAS, SEGREGATE THE TOPSOIL FROM THE SUBSOIL, WHERE POSSIBLE, FOR REUSE DURING SITE RESTORATION.
8. INSTALL PERVIOUS ACCESS ROAD TO FACILITATE CONSTRUCTION ACTIVITIES AND FENCING. APPROXIMATELY 2,000 CUBIC YARDS OF MATERIAL WILL BE CUT, AND SIDE SPREAD ONSITE ASSOCIATED WITH THE ACCESS ROAD AND FENCE POST EXCAVATIONS.
9. PHASE 2 OF CONSTRUCTION WILL CONSIST OF THE REMAINING INSTALLATION ACTIVITIES. THESE ACTIVITIES WILL BE CONDUCTED ON A ROLLING BASIS ACROSS THE SITE. A TOTAL OF APPROXIMATELY 1,600 CUBIC YARDS OF MATERIAL WILL BE CUT, AND SIDE SPREAD ONSITE THROUGHOUT THIS PHASE OF CONSTRUCTION (E.G., INSTALLATION OF EQUIPMENT PADS, RACKING SYSTEM, ELECTRICAL CABLE TRENCHING, UTILITY POLES, AND BIORETENTION AREAS).
10. EXCAVATE ELECTRICAL CABLE TRENCHES TO A DEPTH THAT WILL ALLOW FOR SUFFICIENT COVER OVER THE CABLES AFTER BACKFILLING. INSTALL CABLES/WIRING WITHIN THE TRENCHES AND BACKFILL.
11. GRADE THE EQUIPMENT PAD LOCATIONS AS SHOWN ON THESE DRAWINGS AND INSTALL THE EQUIPMENT PADS AND BIORETENTION AREAS.
12. COMPLETE INSTALLATION OF PV ARRAYS AND ASSOCIATED ELECTRICAL EQUIPMENT.
13. INSTALL UTILITY POLES. AND CONNECT ELECTRICAL CABLES TO EXISTING AND NEW ABOVEGROUND UTILITY FEATURES.
14. COMPLETE ANY REMAINING SUBGRADE BACKFILLING AND FINE GRADE THE DISTURBED AREAS TO PRE-CONSTRUCTION GRADES FOLLOWED BY PLACEMENT OF REUSE AND NEW TOPSOIL.
15. INSTALL SHRUB AND TREE PLANTINGS IN ACCORDANCE WITH THIS PLAN.
16. APPLY SEED, SOIL AMENDMENTS AND MULCH IN ACCORDANCE WITH THIS PLAN.
17. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (E.G., COMPOST FILTER SOCKS) ONCE THE ENTIRE SITE HAS BEEN STABILIZED BY A MINIMUM, UNIFORM, PERENNIAL 80% VEGETATIVE COVER OR A NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST EROSION.
18. IMMEDIATELY STABILIZE AREAS (IF ANY) DISTURBED DURING REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
19. DEMOBILIZE CREW, FACILITIES, EQUIPMENT, AND MATERIALS FROM THE SITE.

EROSION AND SEDIMENT CONTROL NOTES:

1. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
2. LOCATIONS OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION. ADDITIONAL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED AT TIME OF CONSTRUCTION AS DIRECTED BY FFP NY ELBA PROJECT1, LLC OR THE ENGINEER.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL NECESSARY TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES UNTIL NO LONGER REQUIRED.
4. TO THE EXTENT PRACTICABLE, THE CONTRACTOR SHALL MINIMIZE THE AREA OF BARE SOIL EXPOSED AT ANY GIVEN TIME.
5. DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY FOR DEFICIENCIES OR REQUIRED MAINTENANCE. THE CONTRACTOR SHALL NOTIFY FFP NY ELBA PROJECT1, LLC'S REPRESENTATIVE(S) AND APPROPRIATE CONTRACTORS OF ANY REQUIRED CORRECTIVE ACTIONS WITHIN 1 BUSINESS DAY FOLLOWING THE INSPECTION AND SHALL COMPLETE THE CORRECTIVE ACTIONS IN A REASONABLE TIME FRAME (E.G., PRIOR TO THE NEXT ANTICIPATED PRECIPITATION EVENT, TO THE EXTENT POSSIBLE).
6. DURING CONSTRUCTION ACTIVITIES, A NEW YORK STATE-QUALIFIED INSPECTOR, AS DEFINED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S CONSTRUCTION GENERAL PERMIT, SHALL INSPECT THE CONSTRUCTION SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS. IF MORE THAN FIVE (5) ACRES OF SOIL IS DISTURBED, INSPECTION FREQUENCIES SHALL BE INCREASED TO AT LEAST TWICE EVERY 7 CALENDAR DAYS. THESE TWO INSPECTIONS SHALL BE SEPARATED BY A MINIMUM OF TWO (2) FULL CALENDAR DAYS. THE QUALIFIED INSPECTOR SHALL PREPARE A REPORT IN ACCORDANCE WITH THE REQUIREMENTS OF THE SWPPP. THE QUALIFIED INSPECTOR SHALL NOTIFY FFP NY ELBA PROJECT1, LLC'S REPRESENTATIVE(S) AND APPROPRIATE CONTRACTORS OF ANY REQUIRED CORRECTIVE ACTIONS WITHIN ONE (1) BUSINESS DAY FOLLOWING THE INSPECTION AND SHALL COMPLETE THE CORRECTIVE ACTIONS IN A REASONABLE TIME FRAME (E.G., PRIOR TO THE NEXT ANTICIPATED PRECIPITATION EVENT, TO THE EXTENT POSSIBLE).
7. IN AREAS WHERE DISTURBANCE EXCEEDS 5 ACRES AND DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES MUST BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN SEVEN (7) DAYS FROM THE DATE THE CURRENT SOIL DISTURBANCE ACTIVITY CEASED. THE SOIL STABILIZATION MEASURES SELECTED SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
8. THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE DUST CONTROL MEASURES AT ALL TIMES TO MINIMIZE THE GENERATION AND POTENTIAL OFF-SITE MIGRATION OF FUGITIVE DUST.
9. THE CONTRACTOR SHALL UTILIZE GOOD HOUSEKEEPING PRACTICES (I.E., MAINTAIN A NEAT AND ORDERLY SITE) SO THAT MISCELLANEOUS CONSTRUCTION DEBRIS DOES NOT IMPACT STORMWATER RUNOFF.
10. THE CONTRACTOR SHALL PREVENT TRACKING OF SOIL MATERIALS ONTO OFF-SITE AREAS (E.G., PUBLIC ROADS). ANY SOIL MATERIALS ACCIDENTALLY TRACKED OR OTHERWISE SPILLED/DROPPED ONTO OFF-SITE AREAS SHALL BE IMMEDIATELY CLEANED UP.
11. THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION BOTH ON AND OFF THE SITE, UNLESS THE VEGETATION HAS BEEN SPECIFICALLY IDENTIFIED FOR REMOVAL.
12. THE CONTRACTOR SHALL CONTAIN SEDIMENT-LADEN RUNOFF TO THE WORK AREA AND NOT ALLOW SEDIMENT TO COLLECT ON ANY OFF-SITE AREA OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STORM DRAINS, LAKES, PONDS, AND WETLANDS.
13. TEMPORARY SEEDING AND MULCHING SHALL BE APPLIED TO ANY AREA WHERE SOIL WILL BE EXPOSED FOR MORE THAN 14 DAYS. MULCH SHALL CONSIST OF UN-ROTTED STRAW APPLIED AT A RATE OF 2 TONS PER ACRE.
14. THE CONTRACTOR SHALL COMPLETE ALL PERMANENT SOIL EROSION CONTROL MEASURES AS SOON AS POSSIBLE AFTER FINAL GRADING (WEATHER PERMITTING) OR UPON COMPLETION OF THE FINAL EARTH DISTURBANCE. IF IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE THE EARTH DISTURBANCE, THEN THE CONTRACTOR SHALL MAINTAIN TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT CONTROL MEASURES ARE IN PLACE AND THE AREA IS STABILIZED.
15. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THESE CONSTRUCTION DRAWINGS AND THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).

NYS DEPARTMENT OF AGRICULTURE AND MARKETS NOTES:

1. STRIPPED TOPSOIL FROM WORK AREAS ARE TO BE TEMPORARILY STOCKPILED AND STABILIZED AS FOLLOWS:
   A. TOPSOIL STOCKPILES LEFT IN PLACE PRIOR TO OCTOBER 31ST ARE TO BE SEEDED WITH AROOSTOOK WINTER RYE OR EQUIVALENT AT AN APPLICATION RATE OF THREE BUSHELS (168 LBS.) PER ACRE AND MULCHED WITH STRAW MULCH AT A RATE OF TWO TO THREE BALES PER 1000 SQUARE FEET.
   B. TOPSOIL STOCKPILES LEFT IN PLACE BETWEEN OCTOBER 31ST AND MAY 31ST ARE TO BE MULCHED WITH STRAW AT A RATE OF TWO TO THREE BALES PER 1000 SQUARE FEET TO PREVENT SOIL LOSS.
2. PRIOR TO FINAL SITE STABILIZATION, STOCKPILED TOPSOIL SHALL BE EVENLY SPREAD ADJACENT TO THE WORK AREA(S), WITHIN THE LIMITS OF DISTURBANCE, SEEDED AND MULCHED AS SPECIFIED IN THE PLANTING PLAN.
3. ALL BURIED UTILITIES WITHIN THE LIMITS OF THE FENCE SHALL HAVE A MINIMUM DEPTH OF 18-INCHES OF COVER IF BURIED IN CONDUIT AND A MINIMUM DEPTH OF 24-INCHES OF COVER IF DIRECTLY BURIED.
4. ALL BURIED UTILITIES OUTSIDE THE LIMITS OF THE FENCE, IMMEDIATELY ADJACENT TO THE ACCESS ROAD, SHALL HAVE A MINIMUM OF 24-INCHES OF COVER.

BASEMAP NOTES:

1. TOPOGRAPHIC INFORMATION AND FEATURE DATA SHOWN WITHIN AND ADJACENT TO THE PROJECT AREA ARE BASED UPON A FIELD SURVEY PERFORMED BY MCINTOSH & MCINTOSH, P.C. SPRING 2020. AERIAL IMAGERY WAS OBTAINED USING THE AUTODESK AUTOCAD GEOMAP FUNCTION, ACCESSED 09/01/2020.
2. EXISTING CONTOURS ARE SHOWN AT A 1-FOOT CONTOUR INTERVAL.
3. HORIZONTAL DATUM IS STATE PLANE, NAD83, NEW YORK WEST ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. SOIL BOUNDARIES AND IDENTIFICATION NAMES WERE OBTAINED FROM THE USDA WEB SOIL SURVEY REPORT, VERSION 21 DATED 06/11/2020.

SOIL RESTORATION REQUIREMENTS

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENT	
NO SOIL DISTURBANCE	RESTORATION NOT REQUIRED	
MINIMAL SOIL DISTURBANCE	RESTORATION NOT REQUIRED	
AREAS OF CUT OR FILL	HSG A&B	HSG C&D
	AERATE[1] AND APPLY 6 INCHES OF TOPSOIL	APPLY FULL SOIL RESTORATION[2,3]
HEAVY TRAFFIC AREAS	APPLY FULL SOIL RESTORATION[3] (DECOMPACTION AND COMPOST ENHANCEMENT)	
AREAS WHERE RUNOFF REDUCTION PRACTICES ARE APPLIED	RESTORATION NOT REQUIRED, BUT MAY BE APPLIED TO ENHANCE THE REDUCTION SPECIFIED FOR APPROPRIATE PRACTICES	

[1] AERATION INCLUDES THE USE OF MACHINES SUCH AS TRACTOR-DRAWN IMPLEMENTS WITH COULTERS MAKING A NARROW SLIT IN THE SOIL, A ROLLER WITH MANY SPIKES MAKING INDENTATIONS IN THE SOIL, OR PRONGS WHICH FUNCTION LIKE A MINI-SUBSOILER.
[2] PER NYSDEC DIVISION OF WATER "DEEP-RIPPING AND DECOMPACTION", APRIL 2008.
[3] PER PAGE 4.52 OF THE NYSDEC "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK)", NOVEMBER 2018.

SUMMARY OF QUANTITIES

DESCRIPTION	QUANTITY[1]	UNIT
PROJECT/DISTURBED AREA	40.8	ACRES
12-INCH COMPOST FILTER SOCK	2,800	LINEAR FEET
32-INCH COMPOST FILTER SOCK	500	LINEAR FEET
STABILIZED CONSTRUCTION ENTRANCE	1	EACH
FILTER BAG	AS REQUIRED FOR EXCAVATION DEWATERING	

NOTES:

1. QUANTITIES INDICATED ABOVE ARE APPROXIMATE ONLY AND SHALL BE INDEPENDENTLY VERIFIED/ESTIMATED BY THE CONTRACTOR.
2. REFER TO THE LANDSCAPING DRAWINGS L-01 AND L-02 FOR QUANTITIES RELATED TO SEEDING AND PLANTINGS.

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

3

PROJECT SUMMARY

TAX MAP NO.	9-1-39.111
ZONING	AGRICULTURAL-RESIDENTIAL (A-R)
PARCEL ACREAGE	138.2 AC
LIMITS OF DISTURBANCE	40.8 AC
SYSTEM SIZE (DC)	7.2225MW
SYSTEM SIZE (AC)	5.0MW
MODULES	LONGI LR4-72HBD-430M
MODULE WATTAGE	535W
MODULE QUANTITY	13,500 units
INVERTERS	Sungrow SG125HV
INVERTER QUANTITY	40 Units
PV RACKING TYPE	Single Axis Trackers
SOLAR PANEL HEIGHT	? FT

PROPERTY LINE SETBACK TO SOLAR PANELS (MIN.)

	ALLOWED	PROPOSED
FRONT	30 FT	173 FT (FROM NORTON ROAD)
REAR	25 FT	458 FT
SIDE	15 FT	43 FT

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STAMP:

NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
GENERAL NOTES AND DESCRIPTIONS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

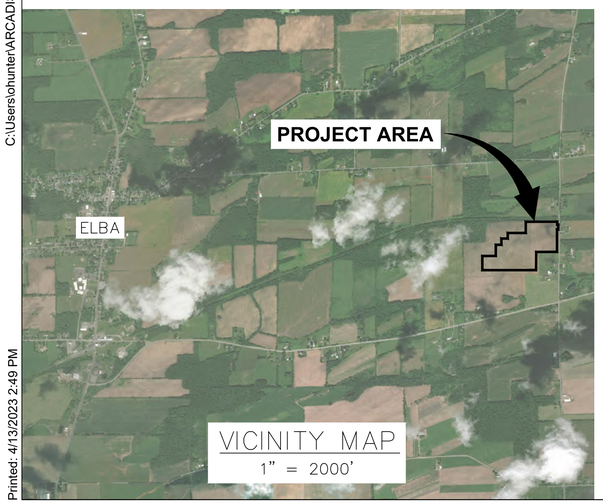
PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
G-02

NOTES:

1. EXISTING CONDITIONS, SITE FEATURES, AND TOPOGRAPHY ARE BASED ON AN ALTA/NSPS LAND TITLE SURVEY BY MCINTOSH & MCINTOSH, P.C. ENTITLED "SURVEY & TOPOGRAPHICAL MAP OF PART OF LOTS-1 &2, SEC.-6, TWP.-13, R.-1, HOLLAND PURCHASE, TOWN OF ELBA, GENESEE COUNTY, NEW YORK", DATED JULY 15, 2020, REVISED DECEMBER 20, 2022.
2. EXISTING ON-SITE DRAINAGE PIPE LOCATION BASED ON A MAP PROVIDED BY ALLEGHANY FARM SERVICES ENTITLED "MAIN LINE MAP" DATED JANUARY 6, 2023.



VICINITY MAP
1" = 2000'

PROJECT SUMMARY	
TAX MAP NO.	9.-1-39.111
ZONING	AGRICULTURAL-RESIDENTIAL (A-R)
PARCEL ACREAGE	138.2 AC
LIMITS OF DISTURBANCE	40.8 AC
SYSTEM SIZE (DC)	7.2225MW
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MODULES	LONGI LR5-72HBD-535M
MODULE WATTAGE	535W
MODULE QUANTITY	13,500 units
INVERTERS	Sungrow SG125HV
INVERTER QUANTITY	40 Units
PV RACKING TYPE	Single Axis Trackers
SOLAR PANEL HEIGHT	– FT

PROPERTY LINE SETBACK TO SOLAR PANELS (MIN.)		
	ALLOWED	PROPOSED
FRONT	30 FT	280 FT (FROM NORTON ROAD)
REAR	25 FT	1,040 FT
SIDE	15 FT	50 FT

LEGEND:

- EXISTING MAJOR ELEVATION CONTOUR
- EXISTING MINOR ELEVATION CONTOUR
- EXISTING WETLAND
- EXISTING STREAM
- PROPERTY BOUNDARY
- RIGHT OF WAY
- LOT LINE
- OE — EXISTING OVERHEAD ELECTRIC
- OE&C — EXISTING OVERHEAD ELECTRIC & CABLE
- W — EXISTING WATER
- X — EXISTING FENCE
- D — EXISTING DRAINAGE PIPE
- P.P. — EXISTING POWER POLE
- W.V. — EXISTING WATER VALVE
- HYD. — EXISTING HYDRANT
- M.B. — EXISTING MAILBOX
- EXISTING SIGN (REFLECTOR)
- N.F.V. — NOT FIELD VERIFIED
- SOIL TYPE BOUNDARY AND ID
- LOD — PROPOSED LIMITS OF DISTURBANCE

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

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DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
EXISTING CONDITIONS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
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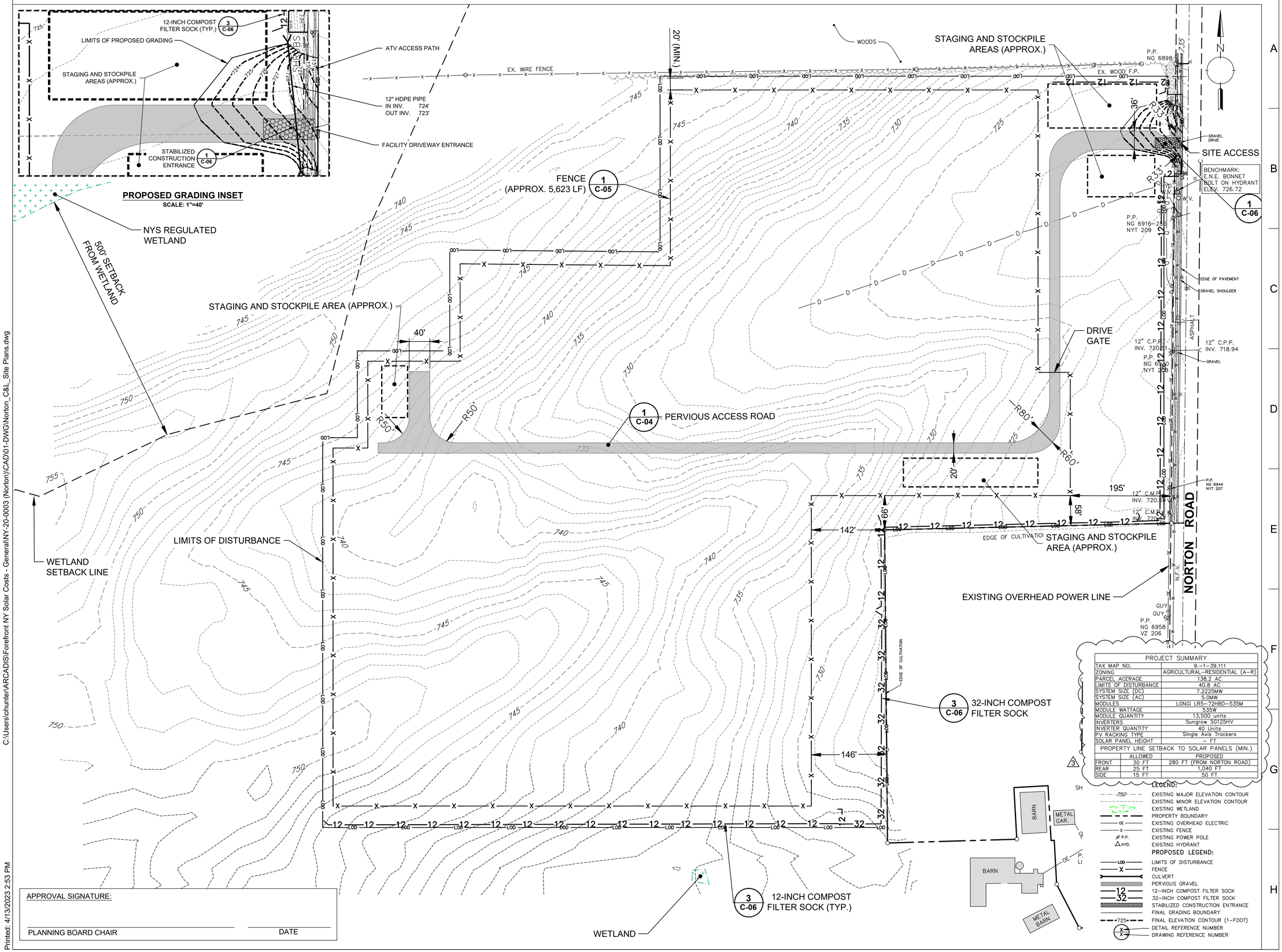
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
1" = 120'

SHEET NO.:
C-01



PROJECT SUMMARY	
TAX MAP NO.	9-1-39.111
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LIMITS OF DISTURBANCE	40.8 AC
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MODULE QUANTITY	13,500 units
INVERTERS	Sungrow SG125HV
INVERTER QUANTITY	40 Units
PV RACKING TYPE	Single Axis Trackers
SOLAR PANEL HEIGHT	- FT

PROPERTY LINE SETBACK TO SOLAR PANELS (MIN.)	ALLOWED	PROPOSED
FRONT	30 FT	280 FT (FROM NORTON ROAD)
REAR	25 FT	1,040 FT
SIDE	15 FT	50 FT

LEGEND:
- EXISTING MAJOR ELEVATION CONTOUR
- EXISTING MINOR ELEVATION CONTOUR
- EXISTING WETLAND
- PROPERTY BOUNDARY
- EXISTING OVERHEAD ELECTRIC
- EXISTING FENCE
- EXISTING POWER POLE
- EXISTING HYDRANT

PROPOSED LEGEND:
- LIMITS OF DISTURBANCE
- FENCE
- CULVERT
- PERVIOUS GRAVEL
- 12-INCH COMPOST FILTER SOCK
- 32-INCH COMPOST FILTER SOCK
- STABILIZED CONSTRUCTION ENTRANCE
- FINAL GRADING BOUNDARY
- FINAL ELEVATION CONTOUR (1-FOOT)
- DETAIL REFERENCE NUMBER
- DRAWING REFERENCE NUMBER

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR DATE

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NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
SITE PREPARATION AND E&SC PLAN

SHEET SIZE
ARCH D
24" X 36"

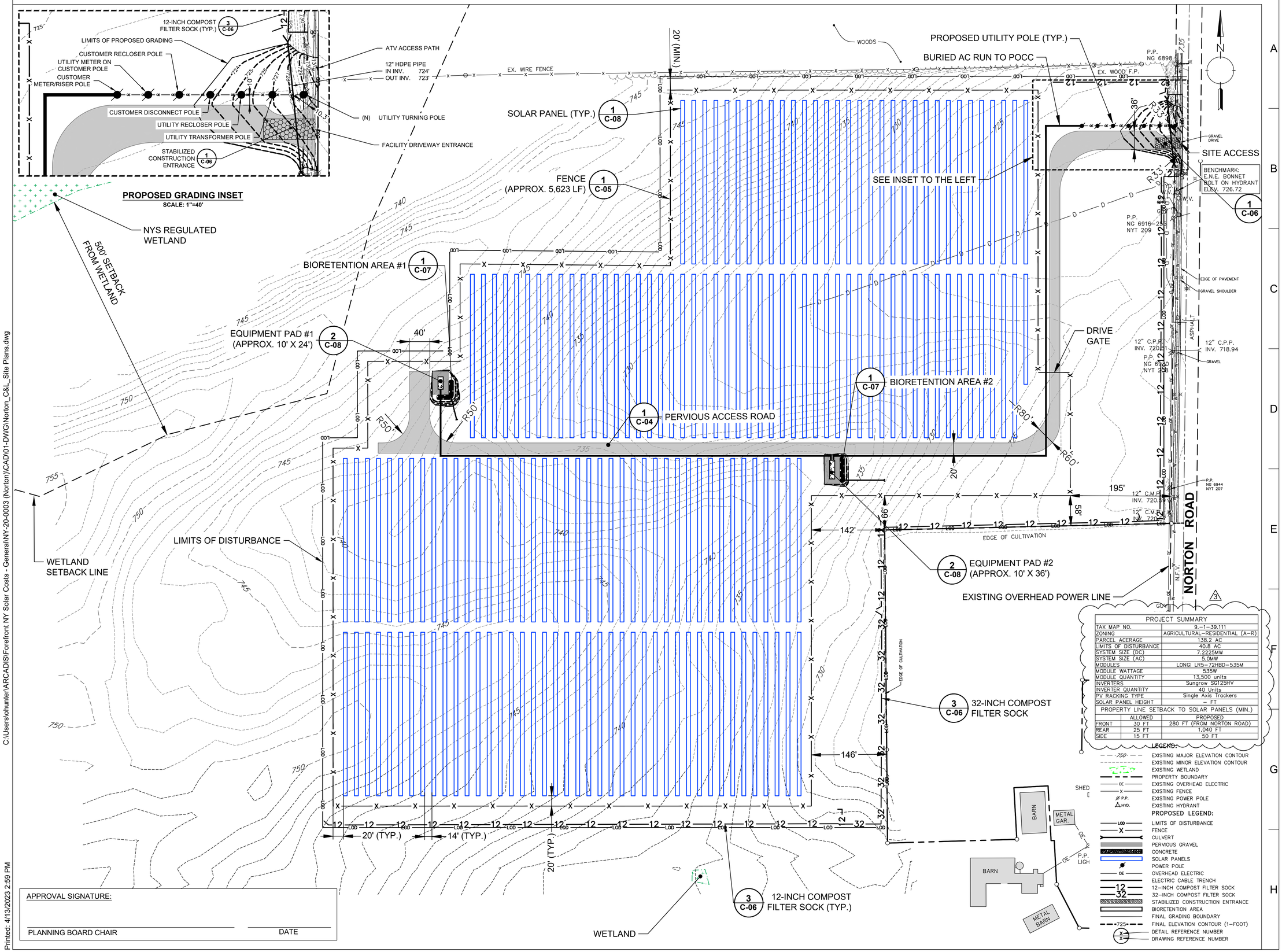
NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE: 1" = 80' (MAIN)
1" = 40' (INSET)

SHEET NO.:
C-02



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STAMP:

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DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
SITE LAYOUT PLAN

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE: 1" = 80' (MAIN)
1" = 40' (INSET)

SHEET NO.:
C-03

GENERAL NOTES:

1. USE OF THIS DETAIL/CRITERION IS LIMITED TO ACCESS ROADS USED ON AN OCCASIONAL BASIS ONLY (I.E., PROVIDE ACCESS FOR MOWING, EQUIPMENT REPAIR OR MAINTENANCE, ETC.).
2. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
4. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER. COMPACT TO THE DEGREE OF THE NATIVE IN SITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
5. GRADE ROADWAY, WHERE NECESSARY, TO NATIVE SOIL AND DESIRED ELEVATION, MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
6. REMOVE REFUSE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
7. ROADWAY WIDTH TO BE DETERMINED BY CLIENT.
8. THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
9. PRIOR TO SITE CONSTRUCTION, TOPSOIL IS TO BE REMOVED WITHIN THE LIMITS OF THE PERVIOUS ACCESS ROAD AND GEOGRID AND 4-6" OF GRAVEL FILL MATERIAL IS TO BE PLACED WITHIN THOSE LIMITS TO ALLOW FOR CONSTRUCTION ACCESS. AFTER SITE CONSTRUCTION IS COMPLETE, THE EXISTING 4-6" OF GRAVEL FILL MATERIAL IS TO BE SCARIFIED AND AN ADDITIONAL 6-8" OF GRAVEL FILL MATERIAL IS TO PLACED OVER THE TOP. FINAL GRAVEL FILL MATERIAL NOT TO BE INSTALLED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS ROAD HAVE ACHIEVED FINAL STABILIZATION. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. THE PENETROMETER READINGS SHALL BE COMPARED TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
10. TO MINIMIZE SOILS BEING TRACKED ONTO THE ACCESS ROAD, A STANDARD NEW YORK STATE STABILIZED CONSTRUCTION ACCESS SHALL BE CONSTRUCTED AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON, OR OFF SITE. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
11. PROJECTS SHOULD AVOID INSTALLATION OF THE LIMITED USE PERVIOUS ACCESS ROAD IN POORLY DRAINED AREAS, HOWEVER IF NO ALTERNATIVE LOCATION IS AVAILABLE, THE PROJECT SHALL UTILIZE WOVEN GEOTEXTILE MATERIAL AS DETAILED IN THE FOLLOWING NOTES.
12. THE PERVIOUS ACCESS ROAD WILL HAVE A WELL-ESTABLISHED PERENNIAL VEGETATIVE COVER, WHICH SHALL CONSIST OF UNIFORM VEGETATION (I.E., BUFFER), 20 FEET WIDE AND PARALLEL TO THE DOWN GRADIENT SIDE OF THE ACCESS ROAD. POST-CONSTRUCTION OPERATION AND MAINTENANCE PRACTICES WILL MAINTAIN THIS VEGETATIVE COVER TO ENSURE FINAL STABILIZATION FOR THE LIFE OF THE ACCESS ROAD.
13. THE DESIGN PROFESSIONAL MUST ACCOUNT FOR THE LIMITED USE PREVIOUS ACCESS ROAD IN THEIR SITE ASSESSMENT/HYDROLOGY ANALYSIS. IF THE HYDROLOGY ANALYSIS SHOWS THAT THE HYDROLOGY HAS BEEN ALTERED FROM PRE- TO POST-DEVELOPMENT CONDITIONS (SEE APPENDIX A OF GP-0-20-001 FOR THE DEFINITION OF "ALTER THE HYDROLOGY..."), THE DESIGN MUST INCLUDE THE NECESSARY DETENTION/RETENTION PRACTICES TO ATTENUATE THE RATES (10 AND 100 YEAR EVENTS) TO PRE-DEVELOPMENT CONDITIONS.
14. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN , DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4 (SEE TABLE THIS DRAWING). CONTRACTOR SHALL OBTAIN A REPRESENTATIVE SAMPLE OF THE STONE FILL MATERIAL AND SUBMIT FOR LABORATORY TESTING OF PARTICLE SIZE DISTRIBUTION USING GRAIN SIZE ANALYSIS. RESULTS OF THE TESTING SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO DELIVER OF THE MATERIAL TO THE SITE. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.

GEOGRID MATERIAL NOTES:

1. THE GEOGRID, OR COMPARABLE PRODUCT, IS INTENDED FOR USE FOR ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL, GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
3. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
4. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
5. LIMITED USE PERVIOUS ACCESS ROADS SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

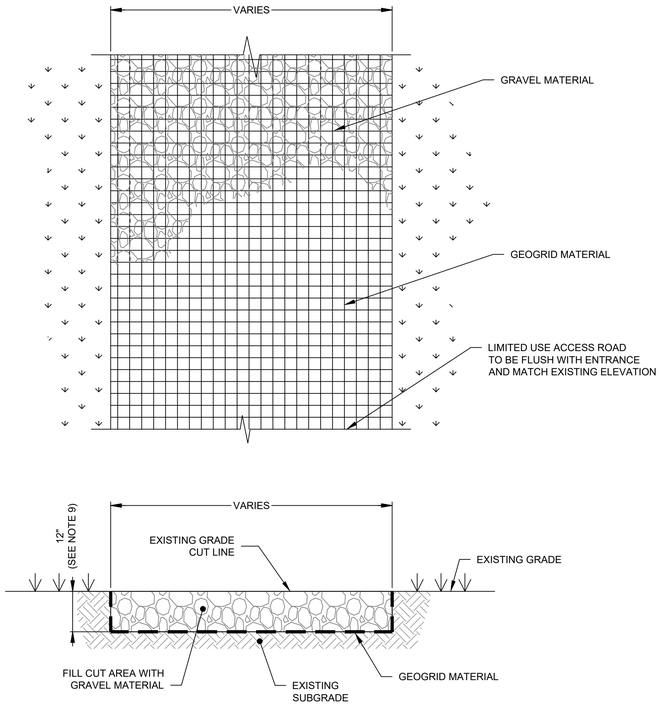
BASIS OF DESIGN: TENCATE MIRAFI BXG110 GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; 800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

WOVEN GEOTEXTILE MATERIAL NOTES:

1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D, OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST, OR GEOTECHNICAL DATA.
2. THE CONCERN FOR POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOILS WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; 800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

3



1 **LIMITED USE PERVIOUS ACCESS ROAD 0% TO 10% SLOPES**

NOT TO SCALE

TABLE 703-4(1) SIZES OF STONE, GRAVEL AND SLAG

Size Designation	Screen Sizes										
	4 in	3 in	2 1/2 in	2 in	1 1/2 in	1 in	1/2 in	1/4 in	1/8 in	# 80	#200(3)
Screenings(2)	-	-	-	-	-	-	100	90-100	-	-	0-1.0
1B	-	-	-	-	-	-	-	100	90-100	0-15	0-1.0
1A	-	-	-	-	-	-	100	90-100	0-15	-	0-1.0
1ST	-	-	-	-	-	-	100	0-15	-	-	0-1.0
1	-	-	-	-	-	100	90-100	0-15	-	-	0-1.0
2	-	-	-	-	100	90-100	0-15	-	-	-	0-1.0
3A	-	-	-	100	90-100	0-15	-	-	-	-	0-0.7
3	-	-	100	90-100	35-70	0-15	-	-	-	-	0-0.7
4A	-	100	90-100	-	0-20	-	-	-	-	-	0-0.7
4	100	90-100	-	0.15	-	-	-	-	-	-	0-0.7
5	90-100	0-15	-	-	-	-	-	-	-	-	0-0.7

(1)Percentage by weight passing the following square openings.
(2)Screenings shall include all of the fine material passing a 1/4 in. screen.
(3)The minus No. 200 material requirements apply only to aggregate for use in portland cement concrete, surface treatment, cold mix bituminous pavements and underdrain filter material.. The test (NYSDOT 201) will be performed on the entire sample of the designated size aggregate. Primary size does not apply in the determination of the minus No. 200 material.

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

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STAMP:

NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
SITE ACCESS ROAD DETAILS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
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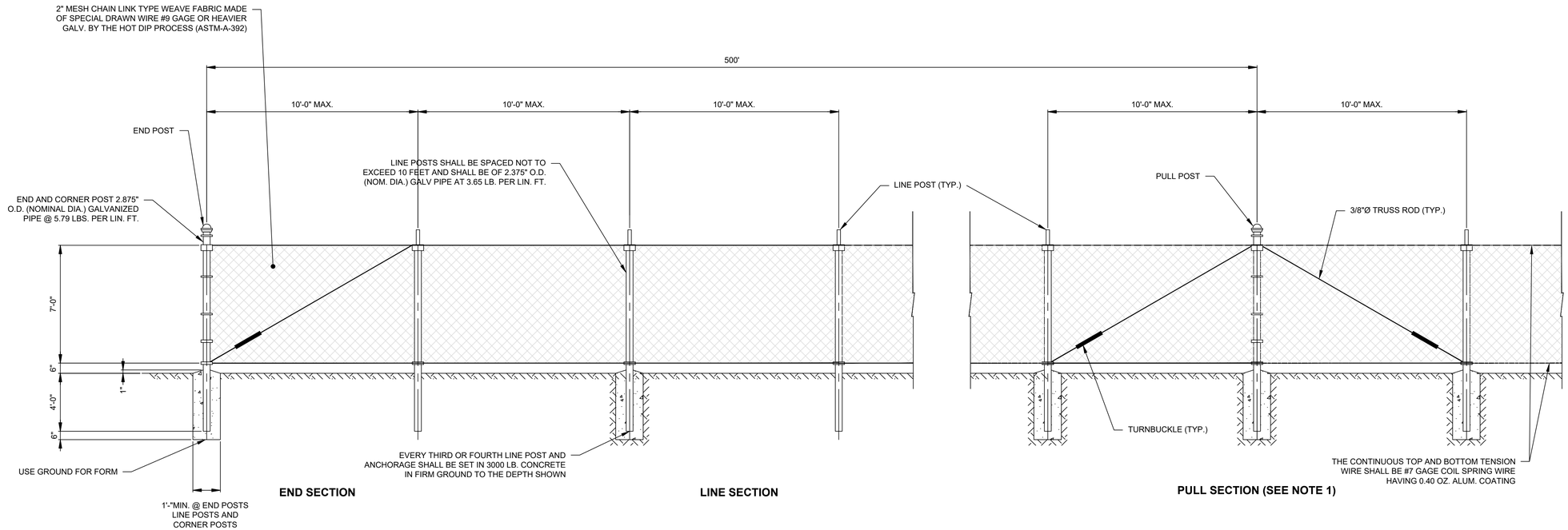
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
C-04



NOTES:

1. ONE PULL SECTION AS SHOWN WILL BE REQUIRED FOR EACH 500 FEET OF FENCE AND AT ALL SHARP BREAKS IN TERRAIN.

1 FENCE
NOT TO SCALE

APPROVAL SIGNATURE:

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NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
FENCE DETAILS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
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2	FOR NYSDEC	03.19.21	MBH
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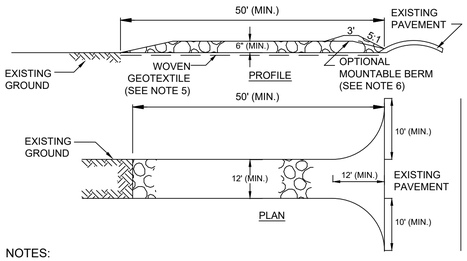
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
C-05



NOTES:

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM FOR ONE-WAY TRAFFIC, TWENTY-FOUR (24) FOOT MINIMUM FOR TWO-WAY TRAFFIC OR IF SINGLE ENTRANCE TO SITE. WIDTH SHALL NOT BE LESS THAN THE WIDTH OF INGRESS/EGRESS POINTS TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN VEHICLE OR EQUIPMENT WASHING IS REQUIRED TO REMOVE ADHERED SOIL AND SEDIMENT, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
10. SEE TABLE 1.1 FOR STABILIZED CONSTRUCTION ENTRANCE FABRIC REQUIREMENTS.

TABLE 1.1 – STABILIZED CONSTRUCTION ENTRANCE FABRIC MINIMUM SPECIFICATIONS

FABRIC PROPERTIES[3]	LIGHT DUTY[1] ROADS GRADE SUBGRADE	HEAVY DUTY[2] HAUL ROADS ROUGH GRADED	TEST METHOD
GRAB TENSILE STRENGTH (LBS)	200	220	ASTM D 1682
ELONGATION AT FAILURE (%)	50	60	ASTM D 1682
MULLEN BURST STRENGTH (PSI)	190	430	ASTM D 3786
PUNCTURE STRENGTH (LBS)	40	125	ASTM D 571 MODIFIED
EQUIVALENT OPENING SIZE	40-80	40-80	US STD SIEVE CW-02215
AGGREGATE DEPTH (IN)	6	10	-

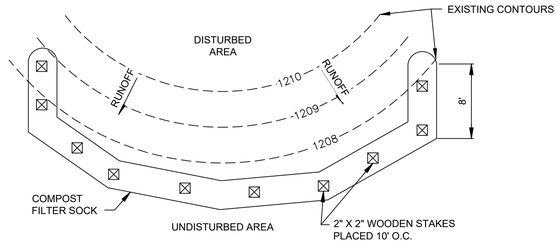
[1]LIGHT DUTY ROAD: AREA SITES THAT HAVE BEEN GRADED TO SUBGRADE AND WHERE MOST TRAVEL WOULD BE SINGLE AXLE VEHICLES AND AN OCCASSIONAL MUTLI-AXLE TRUCK. ACCEPTABLE MATERIALS ARE TREVIRA SPUNBOND 1115, MIRAFI 100X, TYPAR 3401, OR EQUIVALENT.

[2]HEAVY DUTY ROAD: AREA SITES WITH ONLY ROUGH GRADING, AND WHERE MOST TRAVEL WOULD BE MULTI-AXLE VEHICLES. ACCEPTABLE MATERIALS ARE TREVIRA SPUNBOND 1135, MIRAFI 600X, OR EQUIVALENT.

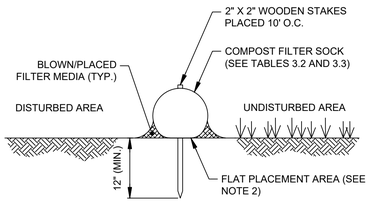
[3]FABRICS NOT MEETING THESE SPECIFICATIONS MAY BE USED ONLY WHEN DESIGN PROCEDURE AND SUPPORTING DOCUMENTATION ARE SUPPLIED TO DETERMINE AGGREGATE DEPTH AND FABRIC STRENGTH.

1 STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



PLAN



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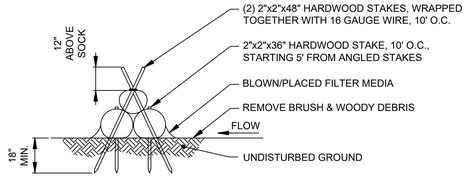


STACKING DETAIL

TABLE 3.1 – COMPOST SOCK MAXIMUM SLOPE LENGTH IN FEET

DIAMETER (INCHES)	UPGRADIENT SLOPE (%)						
	2	5	10	20	25	33	50
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

TABLE 3.3 – COMPOST STANDARDS

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
PH	6.0 - 8.0
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	100% PASS THROUGH 1" SIEVE AND 10%-50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/CM) MAXIMUM

TABLE 3.2 – COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

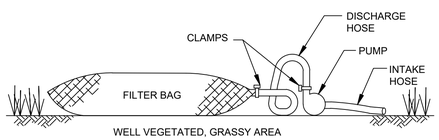
MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12"	12"	12"	12"	12"
	18"	18"	18"	18"	18"
		24"	24"	24"	24"
		32"	32"	32"	32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

NOTES:

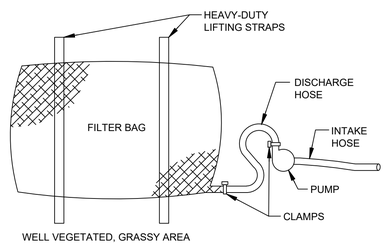
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
2. THE FLAT DIMENSION OF THE SOCK SHALL BE AT LEAST 1.5 TIMES THE NOMINAL DIAMETER.
3. COMPOST INFILL SHALL BE WELL DECOMPOSED (MATURED AT LEAST 3 MONTHS), WEED-FREE, ORGANIC MATTER. IT SHALL BE AEROBICALLY COMPOSTED, POSSESS NO OBJECTIONABLE ODORS, AND CONTAIN LESS THAN 1% (BY DRY WEIGHT) OF MAN-MADE FOREIGN MATTER.
4. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
5. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED AS IDENTIFIED IN THE ESCP.
6. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
7. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
8. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED, OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
9. CONTRACTOR SHALL ENSURE THAT ACTUAL COMPOST FILTER SOCK DIMENSIONS MEET SPECIFIED DESIGN DIMENSIONS.
10. COMPOST FILTER SOCKS SHALL BE SIZED IN ACCORDANCE WITH TABLE 3.1, THIS DETAIL.
11. COMPOST FILTER SOCKS PLACED ON HARD SURFACES WHERE STAKE INSTALLATION IS IMPRACTICAL (E.G., ASPHALT, CONCRETE), THE SOCK MAY BE ANCHORED UTILIZING ALTERNATE METHODS SUCH AS CINDER BLOCKS OR SANDBAGS. ALTERNATIVE ANCHORS MUST BE PLACED IN SUFFICIENT NUMBER AND SPACING TO PREVENT THE SOCK FROM SHIFTING OR SEPARATING THE CONTACT BETWEEN THE SOCK AND GROUND SURFACE.
12. LARGE DIAMETER COMPOST FILTER SOCKS (I.E., 18", 24", AND 32") MAY BE REPLACED WITH SMALLER DIAMETER COMPOST FILTER SOCKS STACKED TO AN EQUIVALENT HEIGHT IN ACCORDANCE WITH THE STACKING DETAIL SHOWN ABOVE.

3 COMPOST FILTER SOCK

NOT TO SCALE



PROFILE



PLAN

NOTES:

1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS; AND SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE STANDARDS INCLUDED IN THE TABLE BELOW.

PROPERTY	MINIMUM STANDARD
ROLL STRENGTH	100 LB/IN
GRAB TENSILE STRENGTH	200 LB
GRAB TENSILE ELONGATION	50%
TRAPEZOID TEAR STRENGTH	80 LB
PUNCTURE	130 LB
MULLEN BURST	380 PSI
UV RESISTANCE	70%
APPARENT OPENING SIZE	40 - 80 US SIEVE
FLOW THRU RATE	70 GPM/SQ FT

3. SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY FOR DISPOSAL PURPOSES SHALL BE PROVIDED.
4. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME HALF-FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
5. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
6. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY.
7. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
8. COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.
9. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
10. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
11. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

2 SEDIMENT FILTER BAG

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DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
EROSION & SEDIMENT CONTROL DETAILS

SHEET SIZE
ARCH D
24" X 36"

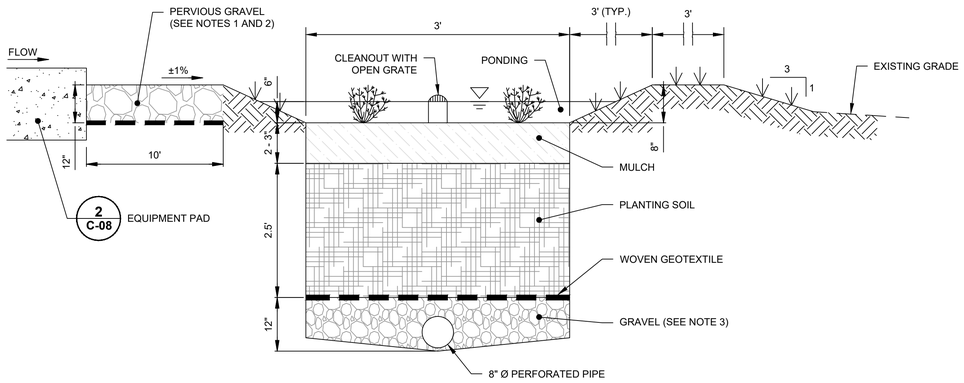
NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
C-06



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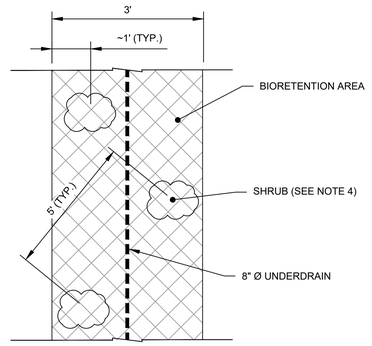
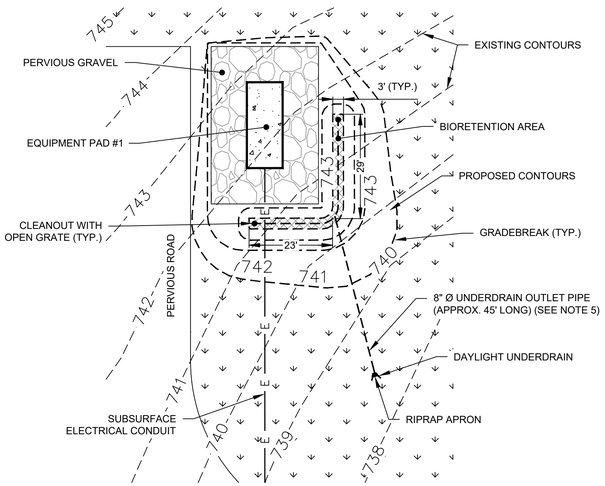
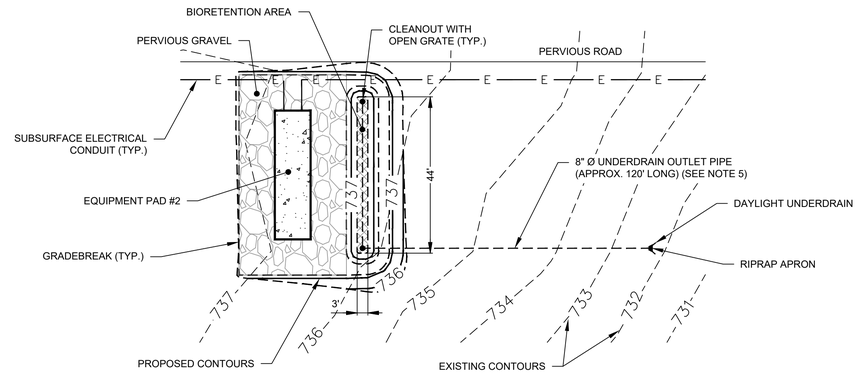


PLANT SPACING



PLAN: BIORETENTION AREA 1



PLAN: BIORETENTION AREA 2

NOTES:

1. PERVIOUS GRAVEL SHALL BE DESIGNED IN ACCORDANCE WITH DETAIL 1 ON DRAWING C-04.
2. PERVIOUS GRAVEL SHALL ACT AS THE STONE DIAPHRAGM PRETREATMENT.
3. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP-ANGLED, CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-020, SIZE DESIGNATION 3-5 OF TABLE 703-4. THIS TABLE IS AVAILABLE ON DRAWING C-04. GRAVEL SHALL NOT BE COMPACTED.
4. SHRUB PLANTINGS WITHIN THE BIORETENTION AREAS SHOULD BE SHRUBBY CINQUEFOIL (*POTENTILLA* OR *DASIPHORA FRUTICOSA*) OR STEEPLEBUSH (*SPIREA TOMENTOSA*) SPACED AT 5 FEET ON CENTER AS SHOWN IN THE SHRUB SPACING VIEW ABOVE.
   A. BIORETENTION AREA 1 SHALL HAVE MINIMUM 10 SHRUBS
   B. BIORETENTION AREA 2 SHALL HAVE MINIMUM 10 SHRUBS
5. SLOPE OUTLET PIPE TO ALLOW WATER TO DRAIN AWAY FROM THE BIORETENTION AREA.

1 BIORETENTION AREA

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NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
BIORETENTION AREA DETAILS

SHEET SIZE
ARCH D
24" X 36"

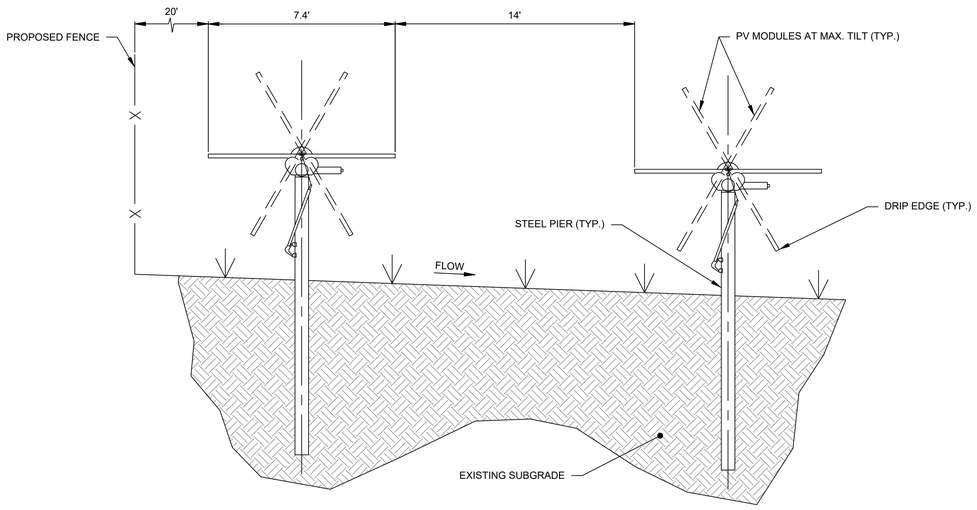
NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
C-07



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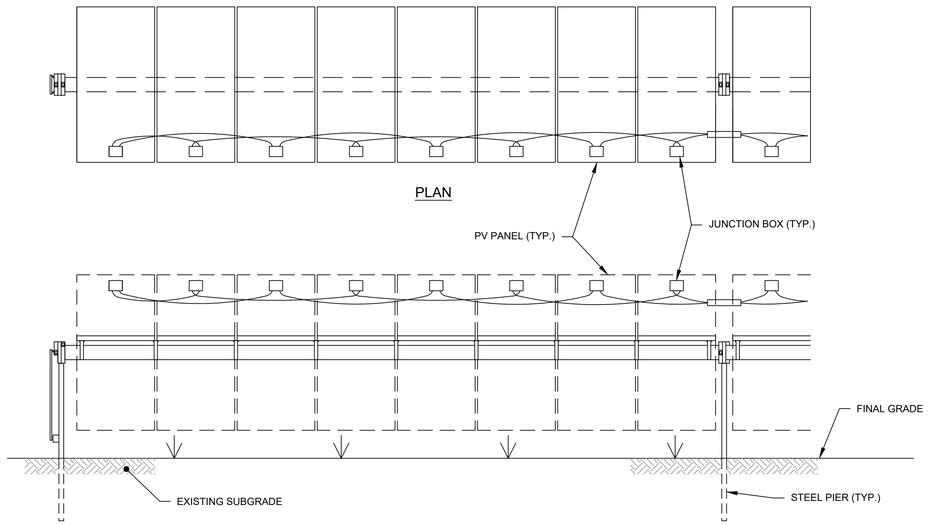
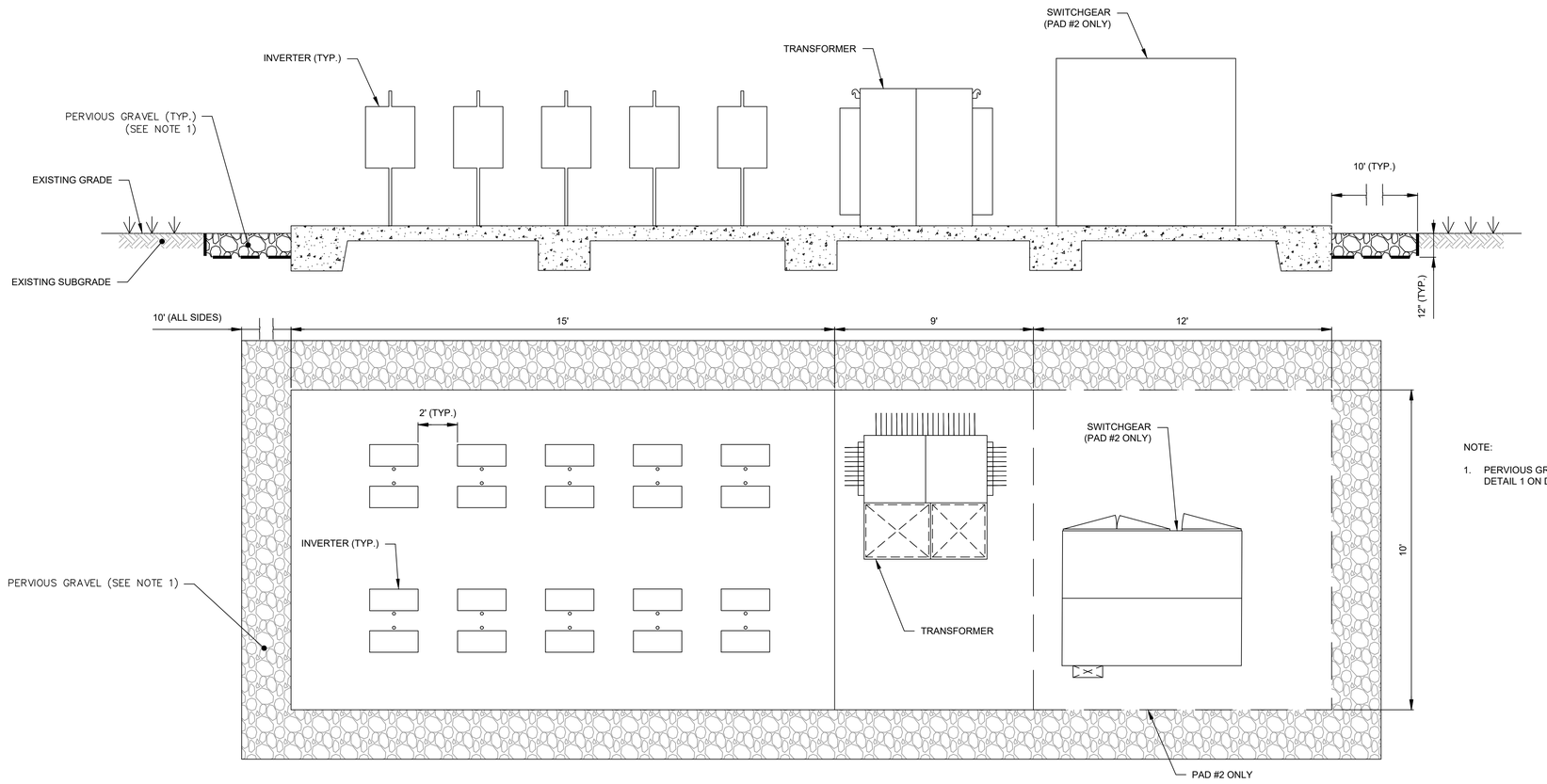


SECTION

1 SOLAR PANEL
NOT TO SCALE



2 EQUIPMENT PAD
NOT TO SCALE

NOTE:

1. PERVIOUS GRAVEL SHALL BE DESIGNED IN ACCORDANCE WITH DETAIL 1 ON DRAWING C-04.

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NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
SOLAR PANEL AND PAD DETAILS

SHEET SIZE
ARCH D
24" X 36"

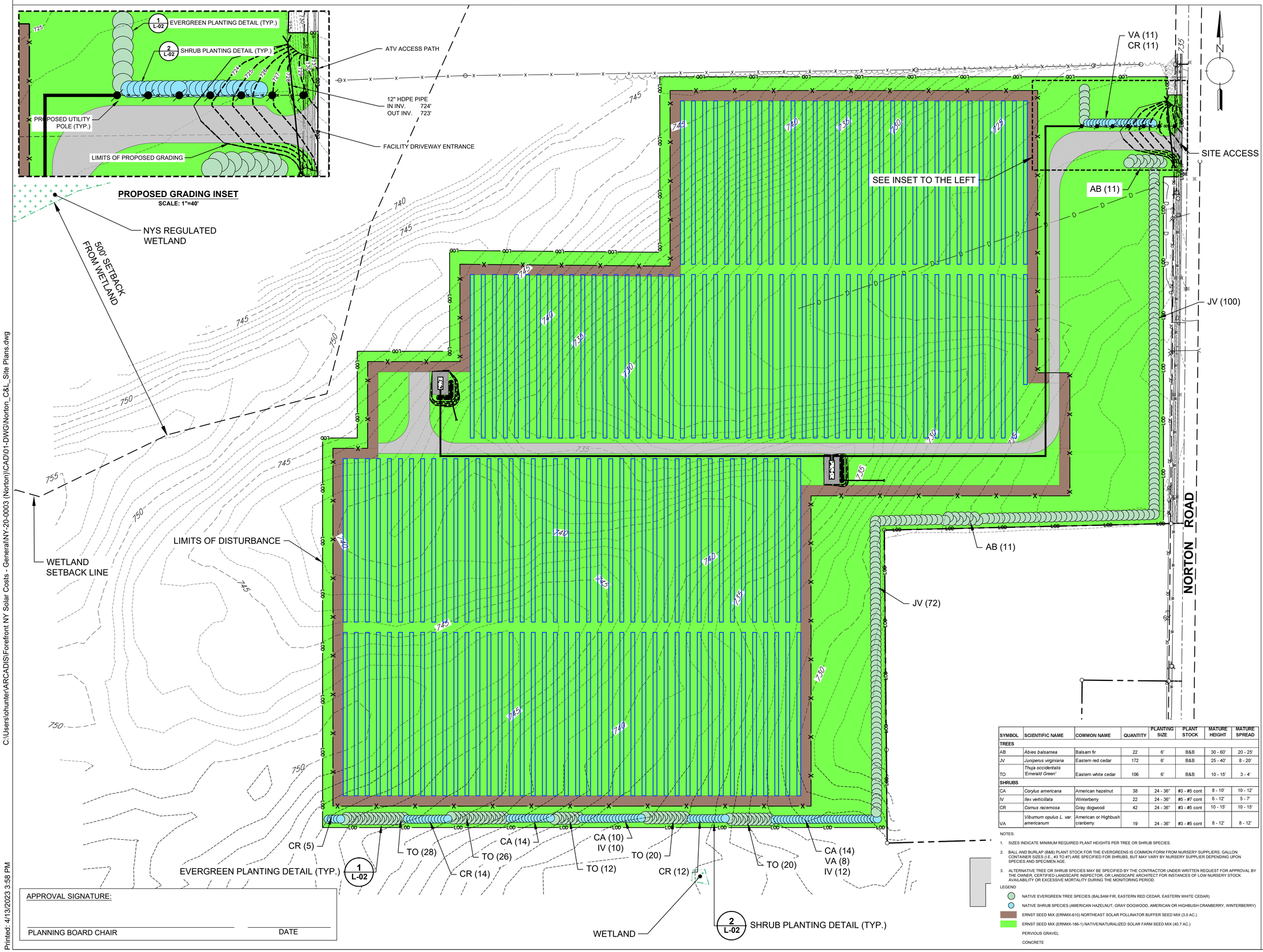
NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
C-08



SYMBOL	SCIENTIFIC NAME	COMMON NAME	QUANTITY	PLANTING SIZE	PLANT STOCK	MATURE HEIGHT	MATURE SPREAD
TREES							
AB	*Abies balsamea*	Balsam fir	22	6'	B&B	30 - 60'	20 - 25'
JV	*Juniperus virginiana*	Eastern red cedar	172	6'	B&B	25 - 40'	8 - 20'
TO	*Thuja occidentalis 'Emerald Green'*	Eastern white cedar	106	6'	B&B	10 - 15'	3 - 4'
SHRUBS							
CA	*Corylus americana*	American hazelnut	38	24 - 36"	#3 - #5 cont	8 - 10'	10 - 12'
IV	*Ilex verticillata*	Winterberry	22	24 - 36"	#5 - #7 cont	6 - 12'	5 - 7'
CR	*Cornus racemosa*	Gray dogwood	42	24 - 36"	#3 - #5 cont	10 - 15'	10 - 15'
VA	*Viburnum opulus L. var. americanum*	American or Highbush cranberry	19	24 - 36"	#3 - #5 cont	8 - 12'	8 - 12'

NOTES:

1. SIZES INDICATE MINIMUM REQUIRED PLANT HEIGHTS PER TREE OR SHRUB SPECIES.
2. BALL AND BURLAP (B&B) PLANT STOCK FOR THE EVERGREENS IS COMMON FORM FROM NURSERY SUPPLIERS. GALLON CONTAINER SIZES (I.E., #3 TO #7) ARE SPECIFIED FOR SHRUBS, BUT MAY VARY BY NURSERY SUPPLIER DEPENDING UPON SPECIES AND SPECIMEN AGE.
3. ALTERNATIVE TREE OR SHRUB SPECIES MAY BE SPECIFIED BY THE CONTRACTOR UNDER WRITTEN REQUEST FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR INSTANCES OF LOW NURSERY STOCK AVAILABILITY OR EXCESSIVE MORTALITY DURING THE MONITORING PERIOD.

LEGEND

- NATIVE EVERGREEN TREE SPECIES (BALSAM FIR, EASTERN RED CEDAR, EASTERN WHITE CEDAR)
- NATIVE SHRUB SPECIES (AMERICAN HAZELNUT, GRAY DOGWOOD, AMERICAN OR HIGHBUSH CRANBERRY, WINTERBERRY)
- ERNST SEED MIX (ERNMX-610) NORTHEAST SOLAR POLLINATOR BUFFER SEED MIX (3.0 AC.)
- ERNST SEED MIX (ERNMX-186-1) NATIVE/NATURALIZED SOLAR FARM SEED MIX (40.7 AC.)
- PERVIOUS GRAVEL
- CONCRETE

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

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NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
LANDSCAPE SCREENING PLAN

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE: 1" = 80' (MAIN)
1" = 40' (INSET)

SHEET NO.:
L-01

GENERAL LANDSCAPING NOTES AND VEGETATION MANAGEMENT RECOMMENDATIONS:

1. THE LANDSCAPE PLAN AND DETAILS ARE FOR LANDSCAPING PURPOSES ONLY.
2. THE CONTRACTOR SHALL MONITOR AND WARRANTEE THAT ALL PLANTS, TREES, AND SHRUBS TO BE HEALTHY AND FREE OF DISEASE FOR A PERIOD OF FIVE (5) YEARS AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER AND ENSURE THAT THE PERFORMANCE STANDARDS SPECIFIED IN THE PLANTING PLAN ARE MET. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE WARRANTEE REQUIREMENTS INCLUDING MAINTENANCE.
3. MAINTENANCE RESPONSIBILITIES INCLUDE MONITORING OF POTENTIAL NUISANCE OR INVASIVE SPECIES THAT MAY INTERFERE WITH THE GROWTH AND SURVIVABILITY OF THE TREE AND SHRUB PLANTINGS. MONITORING OF THE PROJECT SITE SHALL OCCUR IN SPRING AND FALL TO DETERMINE SURVIVABILITY OF TREE AND SHRUB PLANTINGS AND PRESENCE OF POTENTIAL NUISANCE OR INVASIVE SPECIES. IF THESE NUISANCE OR INVASIVE SPECIES ARE INHIBITING THE GROWTH OF SHRUBS OR TREES WITHIN THE SCREENING LAYER, THEN APPROPRIATE CONTROL METHODS WILL BE EMPLOYED BY THE CONTRACTOR. IF THESE METHODS DISTURB EXISTING SCREENING LAYER OR HERBACEOUS LAYER OF THE IMPACTED AREA, THEN THE CONTRACTOR WILL IMPLEMENT SUPPLEMENTAL MATERIALS (APPROVED WITHIN THIS PLAN) FOR SEEDING OF DISTURBED GROUND COVER OR REPLACEMENT OF TREES OR SHRUBS, AS NECESSARY.
4. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED CULTIVATING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL 90 DAYS AFTER FINAL ACCEPTANCE.
5. THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEED MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCLIMATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF TWO (2) YEARS AT THE SOURCE AND OBTAINED WITHIN 200 MILES OF THE PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.
6. THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS EXISTING IRRIGATION LINES OR OTHER AGRICULTURAL FIELD INFRASTRUCTURE. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.
7. ALL SHRUB MASSING SHALL BE MULCHED TO A DEPTH OF 2" AND SHREDDED HARDWOOD BARK MULCH SHALL BE USED FOR SHRUB MASSING AREAS.
8. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE CONTRACTOR. STAKING THE LOCATION OF ALL TREES AND SHRUBS SHALL BE COMPLETED PRIOR TO PLANTING FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT. STAKING OF THE INSTALLED TREE MUST BE COMPLETED THE SAME DAY AS IT IS INSTALLED. ALL TREES SHALL BE STAKED OR GUYED AS PER THE DETAIL. SEE LANDSCAPING PLAN(S) FOR PLANTING DETAILS.
9. PRIOR TO DIGGING, VERIFY WITH PROPERTY OWNER AND PERFORM DIGSAFE NY UTILITY CLEARANCE. COORDINATE PLANT MATERIAL LOCATIONS WITH SITE UTILITIES. SEE SITE LAYOUT, GRADING AND/OR UTILITY PLANS FOR STORM, SANITARY, GAS, ELECTRIC, TELEPHONE, AND WATER LINES. UTILITY LINES ARE APPROXIMATE. EXERCISE CARE WHEN DIGGING IN AREAS OF POTENTIAL CONFLICT WITH UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE DUE TO CONTRACTOR'S NEGLIGENCE AND SHALL REPLACE OR REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.
10. LANDSCAPE PLANTING PITS MUST BE FREE DRAINING. ALTHOUGH NOT ANTICIPATED, ANY LARGE ROCK OR DEBRIS/FILL ENCOUNTERED SHALL BE REMOVED TO A DEPTH OF 2' OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.
    - PLANTING SOIL MIXTURE:
      2 PARTS PEAT MOSS
      5 PARTS TOPSOIL
      MYCORRHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL. USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS. APPLY FERTILIZER/LIME AS RECOMMENDED BY SOIL ANALYSIS.
    - TREES AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS, OR LARVAE. THEY SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAIL(S) PROVIDED IN THE LANDSCAPING PLAN.
    - ALL PRUNING SHALL CONFORM TO THE TREE CARE INDUSTRY ASSOCIATION (TCIA) ANSI A300 (PART 1) - 2017 PRUNING STANDARDS. PRUNING STANDARDS SHALL RECOGNIZE BUT, ARE NOT LIMITED TO, THE FOLLOWING PRUNING OBJECTIVES: MANAGE RISK, MANAGE HEALTH, DEVELOP STRUCTURE, PROVIDE CLEARANCE, MANAGE SIZE OR SHAPE, IMPROVE AESTHETICS, MANAGE PRODUCTION OF FRUCTS, FLOWERS, OR OTHER PRODUCTS, AND/OR MANAGE WILDLIFE HABITAT. DEVELOPING STRUCTURE SHALL IMPROVE BRANCH AND TRUNK ARCHITECTURE, PROMOTE OR SUBORDINATE CERTAIN LEADERS, STEMS, OR BRANCHES; PROMOTE DESIRABLE BRANCH SPACING; PROMOTE OR DISCOURAGE GROWTH IN A PARTICULAR DIRECTION (DIRECTIONAL PRUNING); MINIMIZE FUTURE INTERFERENCE WITH TRAFFIC, LINES OF SIGHT, INFRASTRUCTURE, OR OTHER PLANTS; RESTORE PLANTS FOLLOWING DAMAGE; AND/OR REJUVENATE SHRUBS. PROVIDING CLEARANCE SHALL ENSURE SAFE AND RELIABLE UTILITY SERVICES; MINIMIZE CURRENT INTERFERENCE WITH TRAFFIC, LINES OF SITE, INFRASTRUCTURE, OR OTHER PLANTS; RAISE CROWN(S) FOR MOVEMENT OF TRAFFIC OR LIGHT PENETRATION; ENSURE LINES OF SIGHT OR DESIRED VIEWS; AND/OR COMPLY WITH REGULATIONS.
    - BASED ON SITE AND CURRENT USE OF AGRICULTURAL FIELD, IT IS DOUBTFUL THAT ANY SUPPLEMENTAL TOPSOIL REQUIREMENTS ARE NEEDED.
    - NO PHOSPHORUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.
    - IF SOIL TESTS INDICATE A PHOSPHORUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHORUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.
    - ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL RECEIVING A WILDFLOWER, WETLAND, AND/OR GRASS SEEDING MIXTURE SHALL BE COVERED WITH AN EROSION CONTROL BLANKET.
    - ALL WILDFLOWERS AND GRASSES SOWED SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFOWERS AND/OR GRASSES CAN BE MOWED/MAINTAINED (WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES) AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE/MANICURED HEIGHT.

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

TABLE 1 – NATIVE/NATURALIZED SOLAR FARM SEED MIX (ERNMX-186-1)

SCIENTIFIC NAME	COMMON NAME	PERCENT BY WEIGHT
Festuca rubra	Creeping Red Fescue	34.0%
Festuca ovina	Sheep Fescue	33.0%
Festuca brevipila	Hard Fescue 'Beacon'	10.0%
Festuca ovina var. duriuscula	Hard Fescue 'Gladiator'	5.0%
Festuca ovina var. glauca	Blue Fescue 'Azure'	5.0%
Poa pratensis	Kentucky Bluegrass 'Corsair'	5.0%
Agrostis perennans	Autumn Bentgrass, Albany Pine Bush	3.0%

TABLE 1 NOTES:

1. PLANT WITH A SEEDING RATE OF 6 LB PER 1,000 SQUARE FEET.
2. GRASS SEED MIXES ARE COMPRISED OF GRASSES THAT ARE NATIVE AND/OR NATURALIZED TO THE AREA AND/OR CONSIDERED FAVORABLE FOR WILDLIFE HABITAT AND SUSTAINABLE GROWTH. ADDITIONALLY, THE SOLAR FARM SEED MIX WAS DEVELOPED ESPECIALLY FOR NATIVE GRASS PLANTINGS AROUND SOLAR ARRAY FIELDS AND SHALL BE UTILIZED ACCORDINGLY. THESE GRASSES WILL MATURE OUT TO A HEIGHT OF APPROXIMATELY 2 TO 2 1/2 FEET HIGH.
3. THERE ARE NO WILDFLOWER OR POLLINATOR SEED SPECIES CONTAINED IN THESE NATIVE GRASS SEED MIXES.
4. THIS MIX WILL BE USED UNDER THE SOLAR PANEL ARRAYS (AS SHOWN ON SHEET L-01). THE MIX IS SPECIFIED FROM ERNST SEED AS ERNMX-186-1 AND AN EQUIVALENT MIX IS REQUIRED OF THE CONTRACTOR UPON THE TIME OF PLANTING.

TABLE 2 – NORTHEAST SOLAR POLLINATOR BUFFER SEED MIX (ERNMX-610)

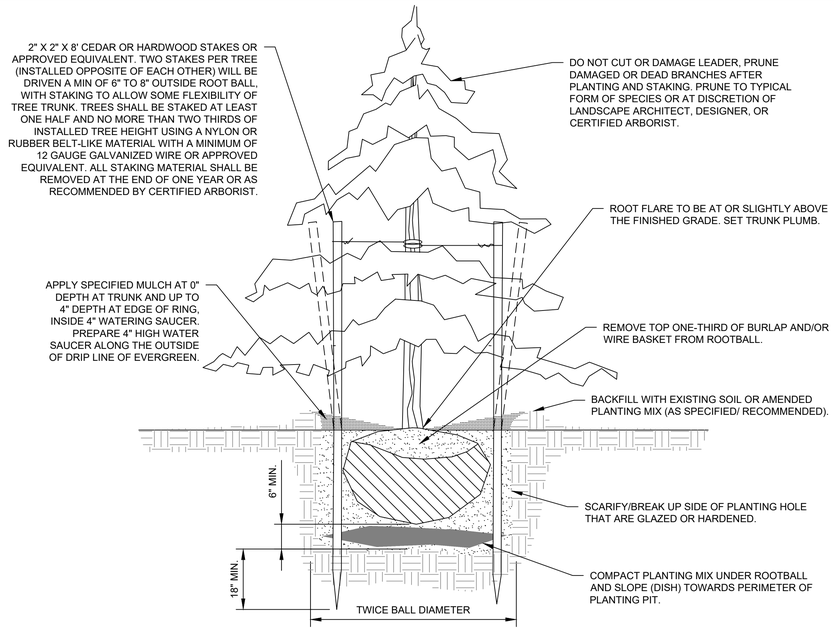
SCIENTIFIC NAME	COMMON NAME	PERCENT BY WEIGHT
Schizachyrium scoparium	Little Bluestem 'Camper'	37.0%
Bouteloua curtipendula	Sideoats Grama 'Butte'	36.3%
Chamaecrista fasciculata	Partidge Pea	4.0%
Coreopsis lanceolata	Lanceleaf Coreopsis	4.0%
Echinacea purpurea	Purple Coneflower	4.0%
Rudbeckia hirta	Blackeyed Susan	3.3%
Heliopsis helianthoides	Oxeye Sunflower	2.3%
Penstemon digitalis	Tall White Beardtongue	1.6%
Asclepias tuberosa	Butterfly Milkweed	1.5%
Liatris spicata	Marsh Blazing Star	0.8%
Senna hebecarpa	Wild Senna	0.7%
Asclepias incarnata	Swamp Milkweed	0.5%
Geum canadense	White Avens	0.5%
Monarda fistulosa	Wild Bergamot	0.5%
Pycnanthemum tenuifolium	Narrowleaf Mountainmint	0.5%
Zizia aurea	Golden Alexanders	0.5%
Aster laevis	Smooth Blue Aster	0.4%
Aster novae-angliae	New England Aster	0.4%
Baptisia australis	Blue False Indigo	0.3%
Tradescantia ohiensis	Ohio Spiderwort	0.3%
Oenothera fruticosa var. fruticosa	Sundrops	0.2%
Solidago nemoralis	Gray Goldenrod	0.2%
Aster prenanthoides	Zigzag Aster	0.1%
Veronicastrum virginicum	Culver's Root	0.1%
COVER CROP (SEE NOTE 4)		
Avena sativa	Annual Grain Oats	100.0%
Secale cereale	Annual Grain Rye	100.0%

TABLE 2 NOTES:

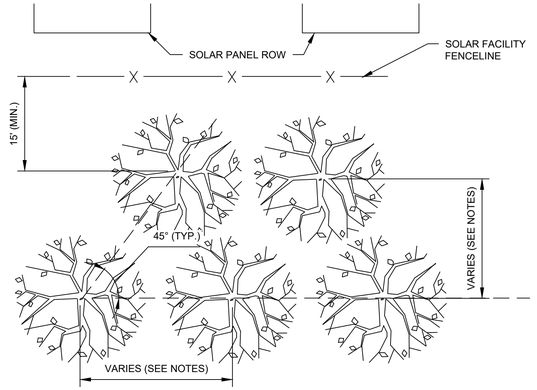
1. PLANT WITH A SEEDING RATE OF 20 LBS/ACRE.
2. NATIVE POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE AN EXCELLENT WILDLIFE FOOD AND SHELTER THAT WILL ATTRACT A VARIETY OF POLLINATORS AND SONGBIRDS. THE NATIVE WILDFLOWERS AND GRASSES IN THIS MIX PROVIDE AN ATTRACTIVE DISPLAY OF COLOR FROM SPRING TO FALL. POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE NECTAR AND FOOD SOURCES FOR A VARIETY OF POLLINATORS AND LARVA. THESE MIXES ARE COMPRISED OF A FAIRLY EVEN MIX OF NATIVE AND/OR INDIGENOUS WILDFLOWERS AND GRASSES.
3. THE POLLINATOR SEED MIX IS INTENDED TO BE SOWN ON THE INSIDE EDGE OF THE EXTENT OF THE PERIMETER FENCE LINE (AS SHOWN ON SHEET L-01).
4. A COVER CROP OF EITHER ANNUAL GRAIN OATS OR GRAIN RYE WILL BE APPLIED WITH THE POLLINATOR MIX TO ESTABLISH COVER AND PROTECTION OF SEEDS. THE COVER CROP WILL BE APPLIED AT A RATE OF 30 LBS/ACRE. THE CHOICE OF COVER CROP WILL BE MADE AT THE DISCRETION OF THE PLANTING CONTRACTOR AND THE GENERAL TIMING OF THE SEED SOWING. TYPICALLY, GRAIN OATS IS PLANTED DURING THE SPRING AND GRAIN RYE IS PLANTED IN THE FALL.
5. THIS POLLINATOR SEED MIX IS SPECIFIED FROM ERNST SEED AS ERNMX-610 AND AN EQUIVALENT MIX IS REQUIRED OF THE CONTRACTOR UPON THE TIME OF PLANTING.

EVERGREEN PLANTING DETAIL AND SHRUB PLANTING DETAIL NOTES:

1. EVERGREEN SPACING WILL VARY BASED ON SPECIES:
   1.1. EASTERN WHITE CEDAR WILL BE PLANTED AT 6 FEET ON CENTERS AT 45 DEGREES FOR TWO OFFSET ROWS.
   1.2. BALSAM FIR WILL BE PLANTED AT 9 FEET ON CENTERS AT 45 DEGREES FOR TWO OFFSET ROWS.
   1.3. EASTERN RED CEDAR PLANTED IN A SINGLE ROW WILL BE INSTALLED ON 10 FEET CENTERS.
2. SHRUBS PLANTED IN A SINGLE ROW WILL BE INSTALLED ON 6 FEET CENTERS.
3. SPACING BETWEEN TREE AND SHRUB TRANSITIONS WILL BE 8 FEET ON CENTER.
4. MINIMUM TREE OR SHRUB DISTANCE FROM FENCE LINE WILL BE 15 FEET. ADDITIONAL SETBACK DISTANCES FROM FENCE LINE ARE USED TO PREVENT PANEL SHADING.



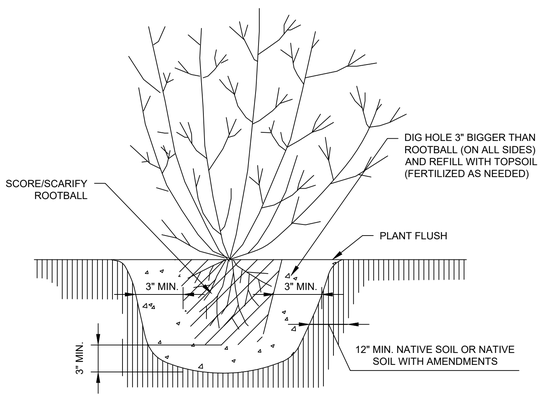
SECTION



SPACING

1 EVERGREEN PLANTING DETAIL

NOT TO SCALE



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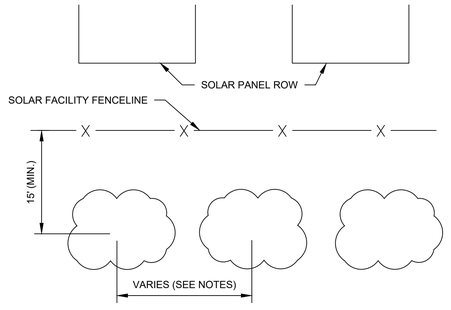

SPACING

2 SHRUB PLANTING DETAIL

NOT TO SCALE

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BOSTON, MA 02110
(617) 431-1440
www.nexamp.com

ARCADIS
ARCADIS U.S., INC.
50 FOUNTAIN PLAZA
SUITE 600
BUFFALO, NY 14202
(315) 671-9545
www.arcadis.com

STAMP:

NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
LANDSCAPE NOTES & DETAILS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
L-02

Appendix E

New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

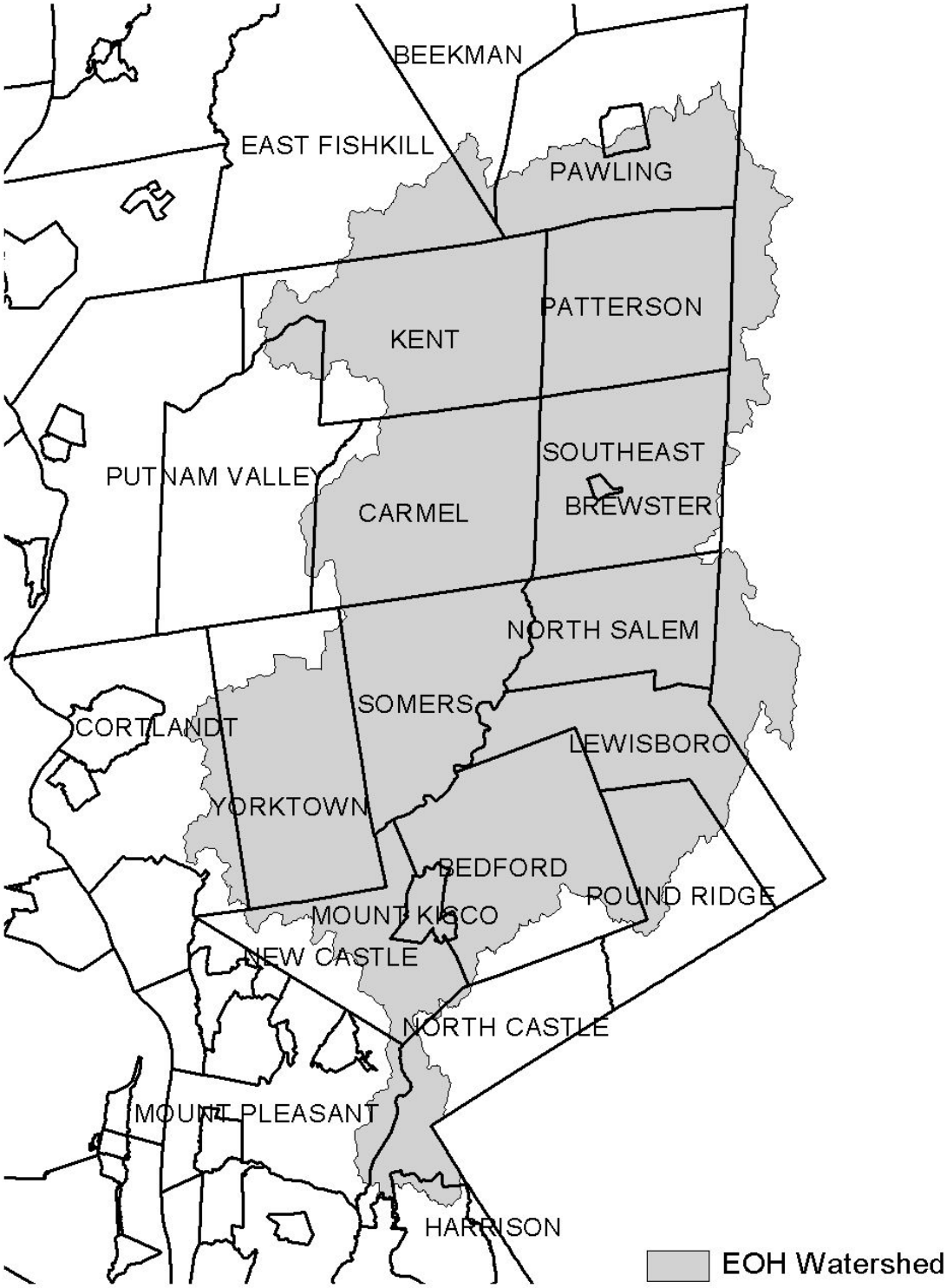


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

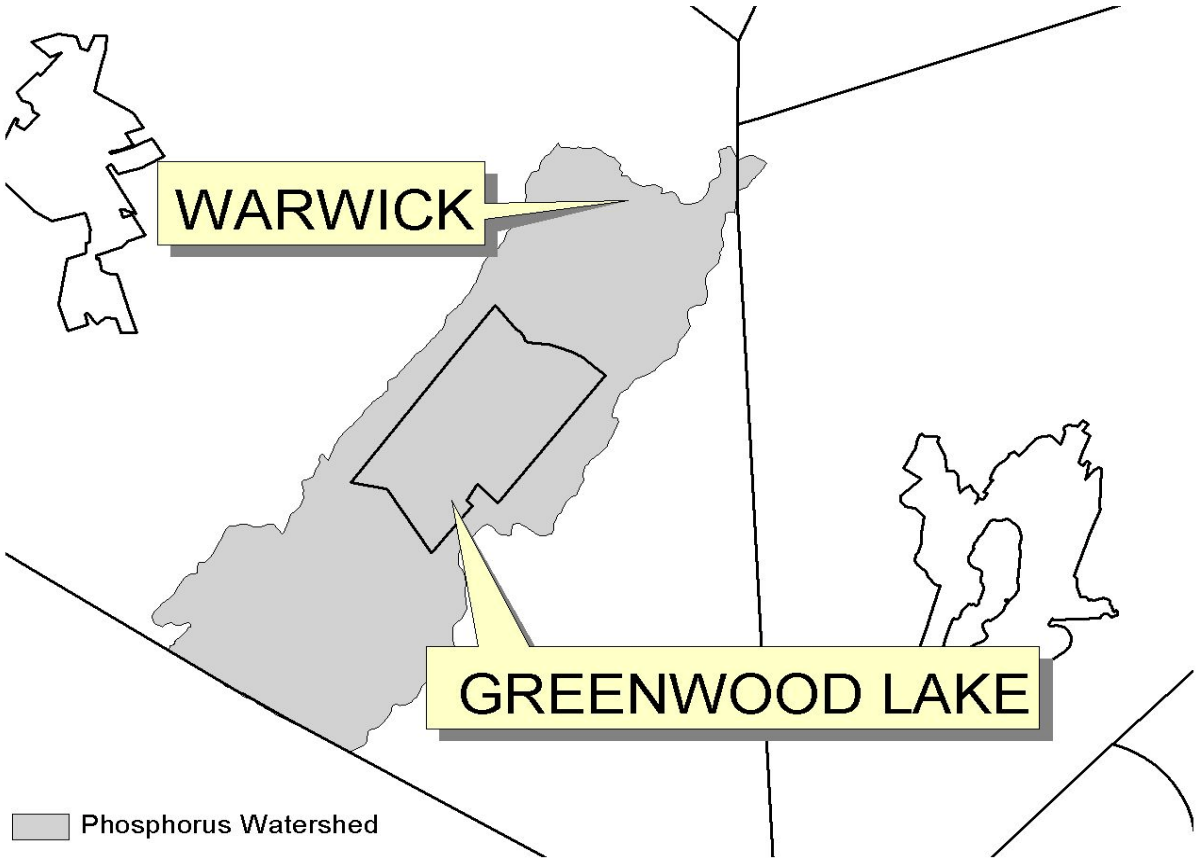


Figure 4 - Oscawana Lake Watershed

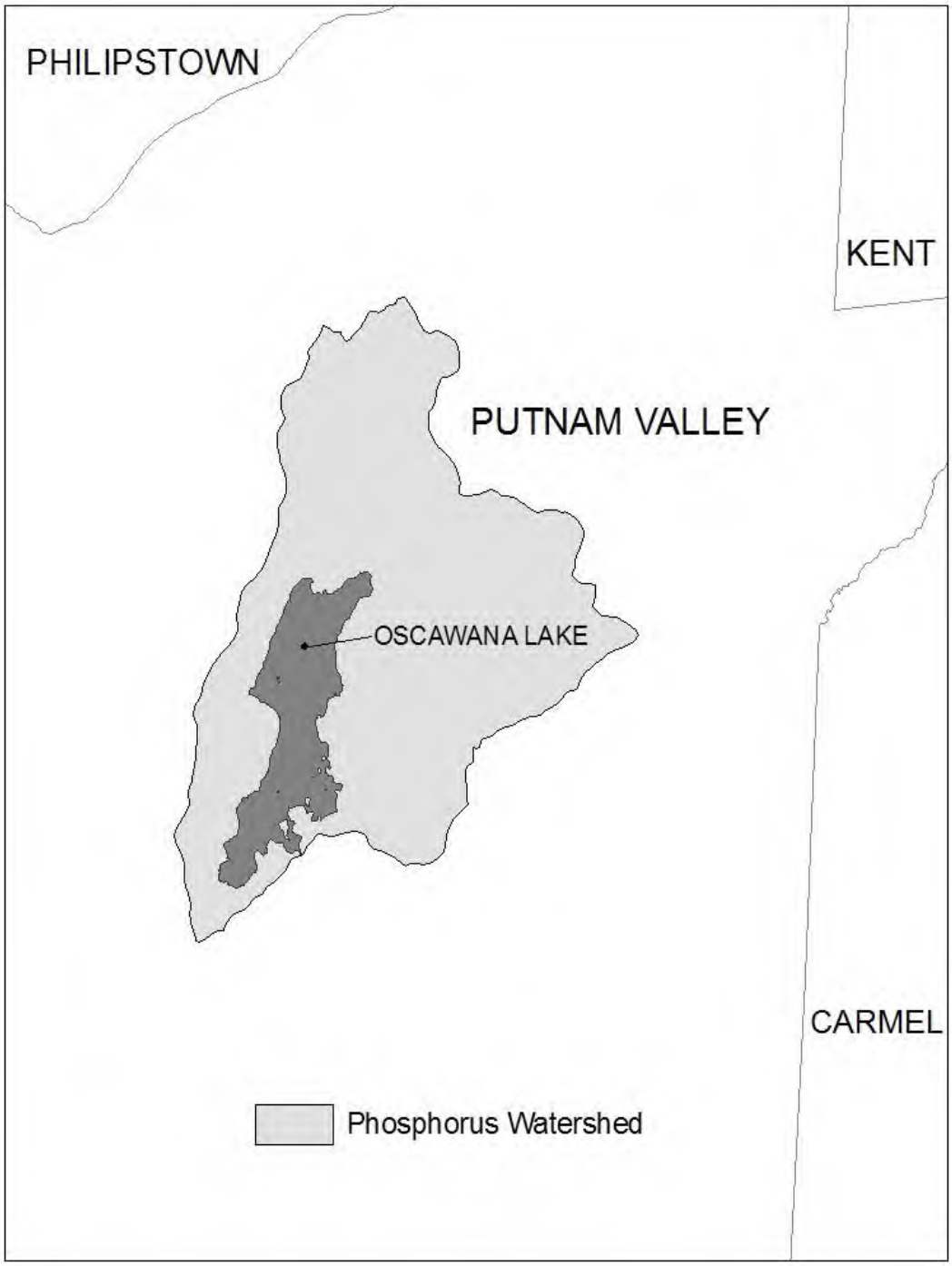
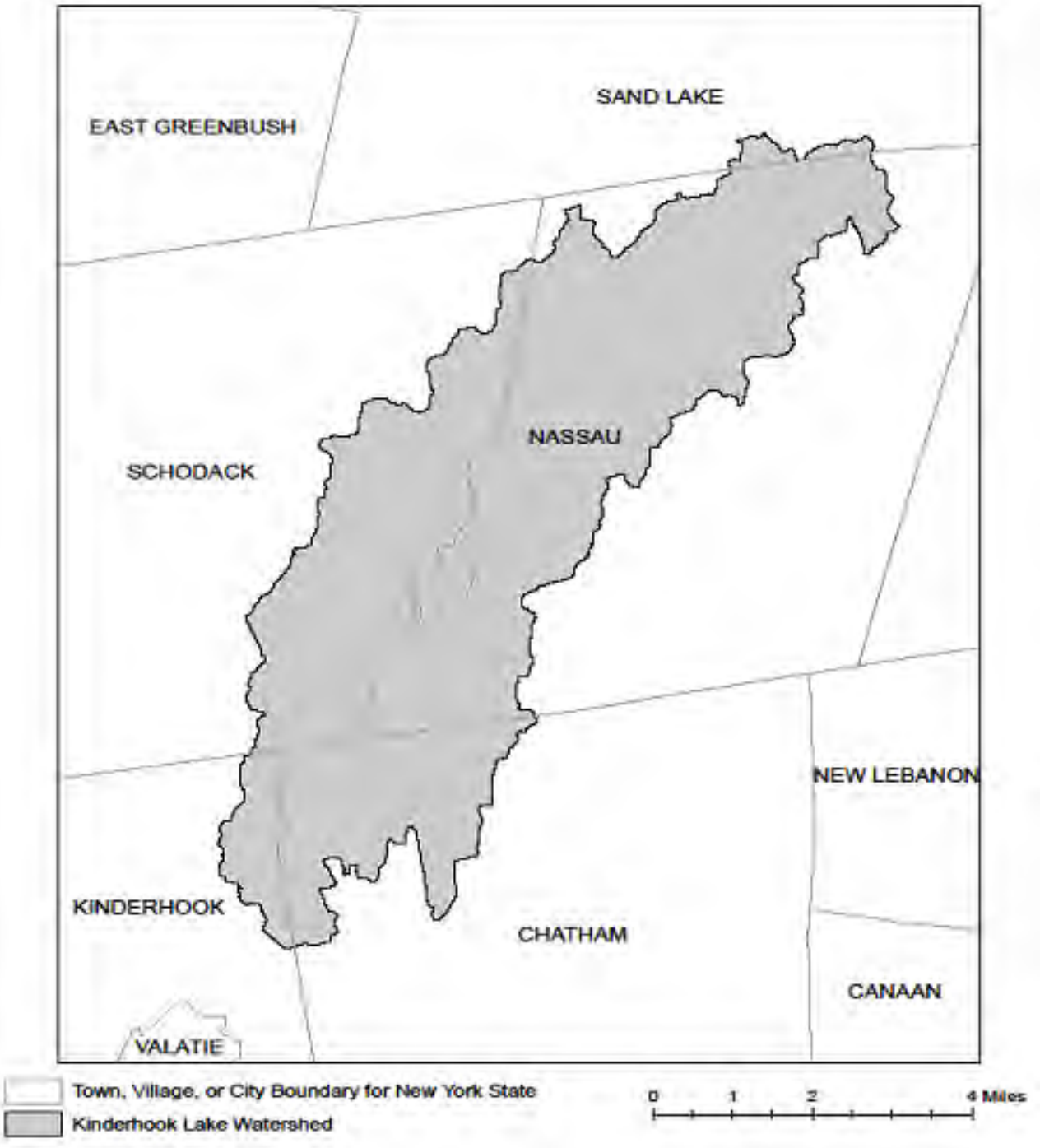


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Appendix F

Stormwater and Erosion Control Analysis

ARCADIS Design & Consultancy for natural and built assets

Imagine the result

Calculation Sheet

Client: ForeFront Power, LLC

Project Location: Elba, NY

Project: Norton Solar Project (NY-20-0003) **Arcadis Project No.:** 30052124

Subject: Stormwater and Erosion Control Analysis

Prepared By: OMH **Date:** January 2021

Reviewed By: ERT **Date:** January 2021

Checked By: MBH **Date:** January 2021

Objective

Determine whether the requirements to manage water quantity and water quality from pre- to post-construction conditions are met with the proposed construction design of the Norton solar facility.

References

1. "Norton Solar Project (NY-20-0003) Erosion and Sediment Control Plan Drawings", Arcadis, December 2020.
2. "The New York State Stormwater Management Design Manual", New York State Department of Environmental Conservation, 2015.
3. United State Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey. (Select pages attached).
4. HydroCAD Software Solutions, LLC. HydroCAD Version 10.0. Computer Software, 2018.
5. National Oceanic and Atmospheric Administration's National Weather Service, Hydrometeorological Design Studies Center, Precipitation Frequency Data Service, Town of Elba, NY (Lat. 43.076° Long. -78.1406°).
6. "Urban Hydrology for Small Watersheds - Technical Release 55," Soil Conservation Service, June 1986.
7. "Solar Panel Construction Stormwater Permitting/SWPPP Guidance" Memorandum, New York State Department of Environmental Conservation, April 5, 2018.
8. "Stormwater Design Guidance – Solar Panel Installations" Memorandum, Maryland Department of the Environment, January 2013.
9. Runoff Reduction Worksheets, New York State Department of Environmental Conservation, Version 1.8, November 9, 2015. (Attached).
10. "Norton Solar Project (NY-20-0003) Watershed Figures", Arcadis, December 2020.

Assumptions

1. The 1-year, 10-year, and 100-year 24-hour storm events were analyzed to account for water quality, overbank flood protection, and extreme flood protection, respectively. These design storms have total rainfall depths as follows (based on Reference 5):
    - 1-year, 24-hour = 1.93 inches
    - 10-year, 24-hour = 3.29 inches
    - 100-year, 24-hour = 4.92 inches
2. Construction activities are not anticipated to significantly impact topography and runoff flow patterns. Minor grading at the site access will still allow runoff to drain to the identified watershed outlet.
3. The watershed is delineated based on topography depicted in References 1 and 10. One watershed was delineated for the project site that drains to a single culvert located in the roadside ditch on the western side of Norton Road. This culvert discharges to the east, where the water ultimately reaches Spring Creek. This watershed extends outside the construction limits. Since construction will not impact runoff direction (see Assumption 2), the watershed boundaries for pre-and post-conditions are the same.
4. The runoff curve numbers for the pre- and post-construction conditions are determined from HydroCAD (Reference 4) based on site visits, Google Earth observations, surveys, and a review of the USDA Web Soil Survey (Reference 3) for the site and surrounding areas. Based on the soil survey, the watershed is divided between hydrologic soil groups B and D (~50% each).
5. Reference 4 has been used to determine peak runoff rates and volume of stormwater runoff for the pre- and post-construction conditions.
6. In accordance with the solar guidance memo developed by the New York State Department of Environmental Conservation (Reference 7), the Water Quality Volume must be managed from any traditional impervious areas constructed as part of the solar facility project (i.e., the two concrete equipment pads).

    Percent of impervious cover (I) for the traditional impervious areas is 100%.

    The 90% rainfall event number (P) is determined from Figure 4.1 in the NYSDEC Stormwater Management Design Manual (Reference 2).

    R_v is determined with this equation: $R_v = 0.05 + 0.009 * (I)$

    Contributing area (A) is the area for equipment pad 1 (240 square feet) and equipment pad 2 (360 square feet).

    Taking these values to solve for Water Quality Volume: $WQ_v = [(P)(Rv)(A)] / 12$
7. The bioretention filter bed area is computed per NYSDEC Stormwater Management Design Manual (Reference 2) using the following:

    Coefficient of permeability (k) for bioretention soil media is 0.5 ft/day

    Depth of soil media (d_f) in the filter bed depth is 2.5 ft

    Average height of water above the filter bed is 0.25 ft

    Design filter bed drain time (t_f) is 2 days for bioretention soil media

Calculating for filter bed surface area $A_f = (WQ_v * d_f) / [k * (h_f + df) * t_f]$

8. Soil infiltration rate at the equipment pads is approximately 0.25 in/hour, based on field infiltration testing. Therefore, the bioretention areas will require an underdrain. To account for freezing, the underdrain diameter is set at 8 inches with a 12-inch bed of gravel.
9. A 10-foot buffer of pervious gravel strengthened with geogrid will provide pretreatment of runoff leading into the bioretention beds.

Water Quantity Calculations

The attached Watershed Maps (Reference 10) depict the watershed area, time of concentration path, and general cover types across the watershed. Table 1 summarizes the pre- and post-construction hydrologic parameters for the watershed.

Table 1: Watershed Hydrologic Parameters

Watershed	Area (acres)	Composite Runoff Curve Number	Time of Concentration (min)
Pre-Construction	75.2	79	69.2
Post-Construction	75.2	71	85.3

Table 2 summarizes the resulting peak runoff rates for the pre- and post-construction conditions.

Table 2: Peak Runoff Rates

Watershed	Peak Runoff Rate (cfs) 1-year	10-year	100-year
Pre-Construction	14.74	49.16	98.54
Post-Construction	4.54	25.29	61.29

As shown in the above tables, the peak runoff rate is reduced following construction of the solar facility. This is due to the lowered curve number resulting from most of the project limits transitioning from agricultural row crop cover to non-grazed meadow. Water quantity is therefore managed by these transitions in land cover.

Water Quality Calculations

The Water Quality Volume (WQv) for the new impervious areas part of the solar facility (two concrete equipment pads) must be managed in accordance with the New York State Stormwater Management Design Manual. The values determined from the WQv calculations are below in Table 3.

Table 3: Water Quality Volume Calculations

Item	Abbreviation	Value	Units
R_v	-	0.95	-
Percent Impervious	I	100	%
90% Rainfall Event Number	P	1.0	Inch
Area Equipment Pad 1	A-1	240 / 0.006	Square feet / acre
Area Equipment Pad 2	A-2	360 / 0.008	Square feet / acre
Water Quality Volume Pad 1	WQ_v-1	19.0 / 0.0004	Cubic feet / acre-feet
Water Quality Volume Pad 2	WQ_v-2	28.5 / 0.0007	Cubic feet / acre-feet

Bioretention areas were chosen as the preferred practice to manage the WQv as the onsite infiltration rates were less than 0.5 in/hour. The bioretention areas include underdrains. The bioretention sizing metrics are below in Table 4.

Table 4: Bioretention Area Calculations

Item	Abbreviation	Value	Units
Soil Media Depth	d_f	2.5	Feet
Hydraulic Conductivity	k	0.5	Feet/day
Average Ponding Height	h_f	0.25	Feet
Filter Time	t_f	2	Days
Required Filter Area Pad 1	A_f-1	17	Square feet
Required Filter Area Pad 2	A_f-2	26	Square feet
Designed Area Pad 1	-	160	Square feet
Designed Area Pad 2	-	131	Square feet

These calculations are presented in full in the Runoff Reduction Worksheets are attached to this report (Reference 9).

Summary

The post-construction peak runoff rate is anticipated to decline compared to pre-construction rates, and thus water quantity management requirements are met.

To manage the water quality volume from the two new impervious areas, equipment pads 1 and 2, a bioretention area is proposed downgradient of the pad to collect to collect all runoff leaving the pads. The design filter area for both equipment pads is significantly larger than the required filter area, and therefore the requirements for managing water quality are met.

United States Department of Agriculture

NRCS

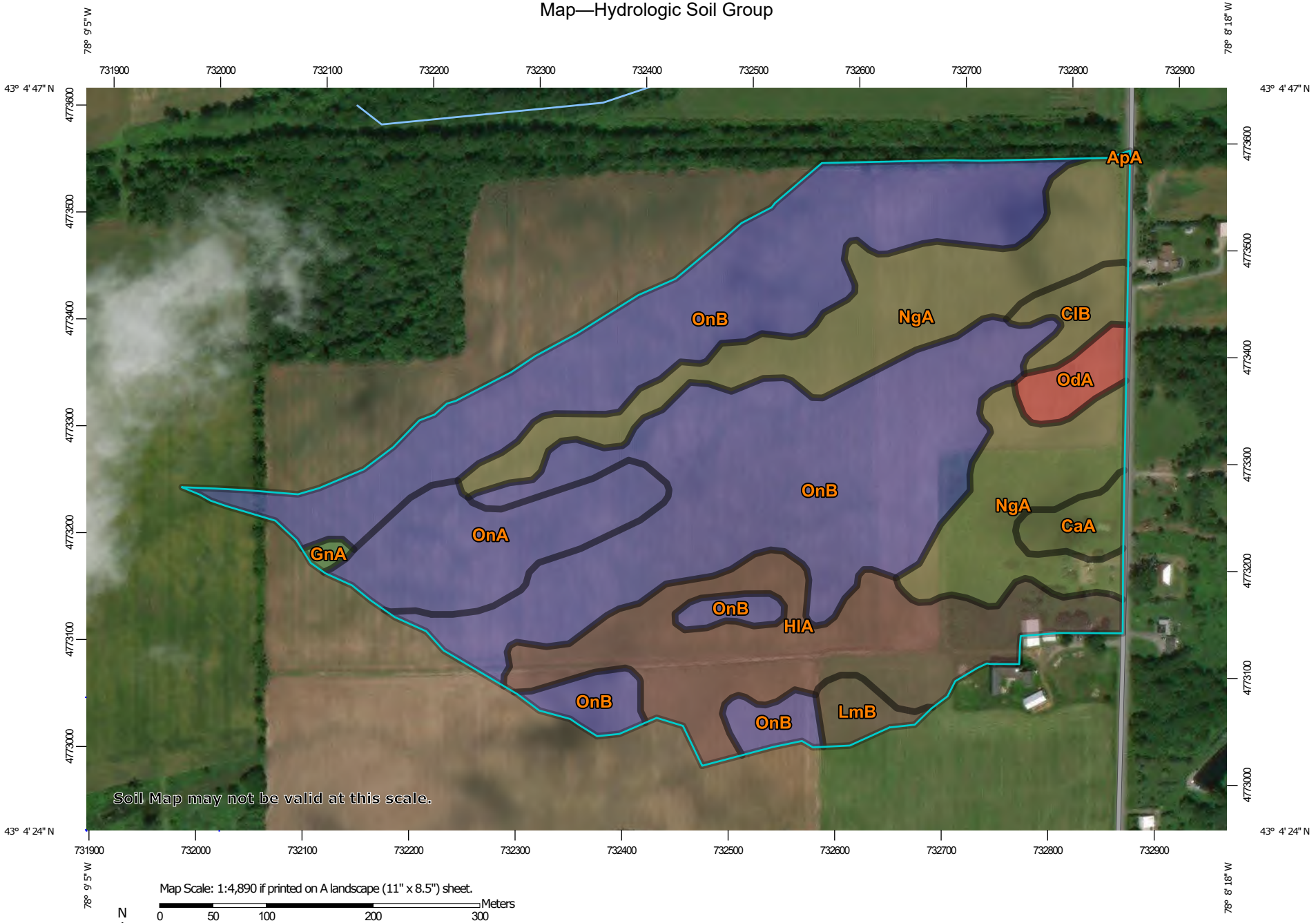
Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Genesee County, New York

December 3, 2020

Map—Hydrologic Soil Group



Map Scale: 1:4,890 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 21, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 18, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ApA	Appleton silt loam, 0 to 3 percent slopes	B/D	0.0	0.0%
CaA	Canandaigua silt loam, 0 to 2 percent slopes	C/D	1.3	1.7%
ClB	Collamer silt loam, 2 to 6 percent slopes	C/D	1.5	2.0%
GnA	Galen very fine sandy loam, 0 to 2 percent slopes	A/D	0.2	0.3%
HlA	Hilton loam, 0 to 3 percent slopes	B/D	11.3	15.1%
LmB	Lima silt loam, 3 to 8 percent slopes	B/D	1.0	1.4%
NgA	Niagara silt loam, 0 to 2 percent slopes	C/D	15.3	20.5%
OdA	Odessa silt loam, 0 to 3 percent slopes	D	1.3	1.8%
OnA	Ontario loam, 0 to 3 percent slopes	B	5.8	7.7%
OnB	Ontario loam, 3 to 8 percent slopes	B	37.1	49.6%
Totals for Area of Interest			**74.9**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Total Water Quality Volume Calculation

ForeFront Norton Project

P=	1.00	*inch*	*90% rainfall event number, Figure 4.1*			
Breakdown of Subcatchments						
Catchment Area	**Total Area (A)** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *(I) %*	**Rv [0.05+0.009(I)]**	**WQv [(P)(Rv)(A)] /12** *(acre-ft)*	**WQv** (ft^3)
Equip Pad#1	0.006	0.006	100%	0.95	0.00044	19.00
Equip Pad #2	0.008	0.008	100%	0.95	0.00065	28.50
Total	0.0138	0.0138			**0.0011**	**47.50**

Total Runoff Reduction Volume (RRv) provided			
Catchment Area	**Practice**	**Runoff Reduction Volume** (ft^3)	**RRv as % WQv**
Equip Pad#1	Bioretention Filter	19	100%
Equip Pad #2	Bioretention Filter	29	100%
Total		**47.50**	100%

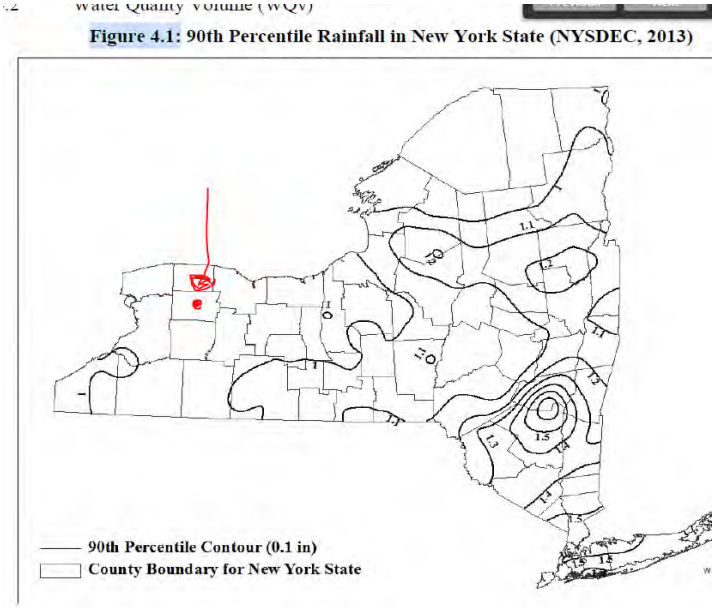


Figure 4.1: 90th Percentile Rainfall in New York State (NYSDEC, 2013)

Bioretention Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Through the Filter Media (days)

k The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
Equip Pad#1	0.01	0.01	1.00	0.95	0.0004	1.00	Equipment Pad on West side

Soil Information			
Soil Group	B		
Soil Infiltration Rate	0.25	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		19	ft^3	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.25	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**17**	ft^2	

Determine Actual Bio-Retention Area			
Filter Width	-	*ft*	*irregular shape*
Filter Length	-	*ft*	*irregular shape*
Filter Area	160	ft^2	*proposed design footprint*
Actual Volume Provided	176	ft^3	Af*[k*(hf+df)(tf)]/df

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	
RRv	70			
RRv applied	**19**	ft^3	***This is 40% of the storage provided or WQv whichever is less.***	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Bioretention Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

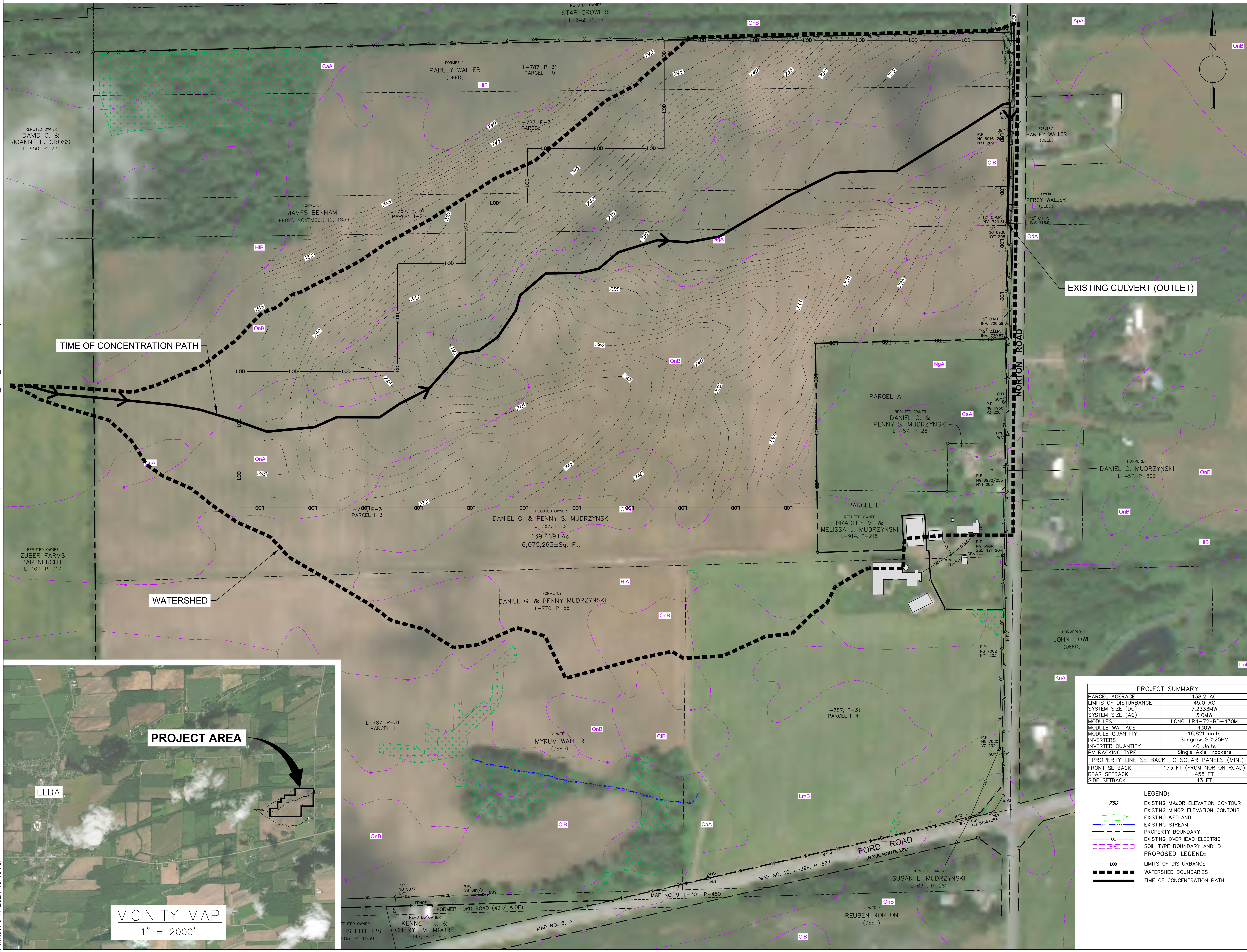
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
Equip Pad#1	0.01	0.01	1.00	0.95	0.0007	1.00	Equipment Pad on East side

Soil Information			
Soil Group	B		
Soil Infiltration Rate	0.25	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		29	ft^3	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.25	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**26**	ft^2	

Determine Actual Bio-Retention Area			
Filter Width	3	*ft*	
Filter Length	44	*ft*	
Filter Area	132	ft^2	
Actual Volume Provided	145	ft^3	Af*[k*(hf+df)(tf)]/df

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	
RRv	58			
RRv applied	**29**	ft^3	***This is 40% of the storage provided or WQv whichever is less.***	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	



PROJECT SUMMARY	
PARCEL ACERAGE	138.2 AC
LIMITS OF DISTURBANCE	45.0 AC
SYSTEM SIZE (DC)	7.2333MW
SYSTEM SIZE (AC)	5.0MW
MODULES	LONGi LR4-72HBD-430M
MODULE WATTAGE	430W
MODULE QUANTITY	16,821 units
INVERTERS	Sungrow SG125HV
INVERTER QUANTITY	40 Units
PV RACKING TYPE	Single Axis Trackers
PROPERTY LINE SETBACK TO SOLAR PANELS (MIN.)	
FRONT SETBACK	173 FT (FROM NORTON ROAD)
REAR SETBACK	458 FT
SIDE SETBACK	43 FT

LEGEND:

- -750- EXISTING MAJOR ELEVATION CONTOUR
- EXISTING MINOR ELEVATION CONTOUR
- EXISTING WETLAND
- EXISTING STREAM
- PROPERTY BOUNDARY
- OE EXISTING OVERHEAD ELECTRIC
- HIB SOIL TYPE BOUNDARY AND ID

PROPOSED LEGEND:

- LOD LIMITS OF DISTURBANCE
- WATERSHED BOUNDARIES
- TIME OF CONCENTRATION PATH

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FOREFRONT POWER

100 MONTGOMERY ST. #725
SAN FRANCISCO, CA 94104
(855) 204-5083
www.ForeFrontPower.com

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.
50 FOUNTAIN PLAZA
SUITE 600
BUFFALO, NY 14202
(315) 671-9545
www.arcadis.com

STAMP:

NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
WATERSHED FIGURE:
PRE-CONSTRUCTION CONDITIONS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH

DATE: 12.04.20
DRAWN BY: AGS/OMH
ENGINEER: MBH
APPROVED BY: XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
1" = 120'

SHEET NO.:
A

PROJECT SUMMARY	
PARCEL ACERAGE	138.2 AC
LIMITS OF DISTURBANCE	45.0 AC
SYSTEM SIZE (DC)	7.2333MW
SYSTEM SIZE (AC)	5.0MW
MODULES	LONGi LR4–72HBD–430M
MODULE WATTAGE	430W
MODULE QUANTITY	16,821 units
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INVERTER QUANTITY	40 Units
PV RACKING TYPE	Single Axis Trackers
PROPERTY LINE SETBACK TO SOLAR PANELS (MIN.)	
FRONT SETBACK	173 FT (FROM NORTON ROAD)
REAR SETBACK	458 FT
SIDE SETBACK	43 FT

LEGEND:

— — -750- — —	EXISTING MAJOR ELEVATION CONTOUR
- - - - - - -	EXISTING MINOR ELEVATION CONTOUR
🟩	EXISTING WETLAND
—·· — ·· —	EXISTING STREAM
— — — —	PROPERTY BOUNDARY
—— OE ——	EXISTING OVERHEAD ELECTRIC
HIB	SOIL TYPE BOUNDARY AND ID

PROPOSED LEGEND:

—— LOD ——	LIMITS OF DISTURBANCE
—— X ——	FENCE
▬	PERVIOUS GRAVEL
▭	SOLAR PANELS
●	POWER POLE
—— OE ——	OVERHEAD ELECTRIC
━━━━	ELECTRIC CABLE TRENCH
────	FINAL GRADING BOUNDARY
━ ━ -725- ━ ━	FINAL ELEVATION CONTOUR (1–FOOT)
■ ■ ■ ■	WATERSHED BOUNDARIES
━━━━	TIME OF CONCENTRATION PATH

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NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
WATERSHED FIGURE:
POST-CONSTRUCTION CONDITIONS

SHEET SIZE
ARCH D
24" X 36"
0 ½" 1"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH

DATE: 12.04.20
DRAWN BY: AGS/OMH
ENGINEER: MBH
APPROVED BY: XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
1" = 120'

SHEET NO.:
B

Appendix G

Office of Parks, Recreation and Historic Preservation Documentation

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

November 02, 2020

Terri Brown
Regulatory Compliance Specialist
Arcadis U.S., Inc.
50 Fountain Plaza
Suite 600
Buffalo, NY 14202

Re: DEC
Forefront Energy - Norton Solar Project (5MW/36.4 Acres of 138.2 Acre Parcel)
Norton Road, Town of Elba, Genesee County, NY
20PR04237
(NY-20-0003)

Dear Terri Brown:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

Appendix H

Solar Memos

Stormwater Design Guidance – Solar Panel Installations

Revisions to Maryland's stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial, or institutional development where more than 5,000 square feet of land area is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.

Depending on local soil conditions and proposed imperviousness, the amount of rainfall that stormwater requirements are based on varies from 1.0 to 2.6 inches. However, addressing stormwater management does not mean that structural or micro-scale practices must be constructed to capture and treat large volumes of runoff. Using nonstructural techniques like disconnecting impervious cover reduces runoff by promoting overland filtering and infiltration. Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the **2000 Maryland Stormwater Design Manual**[1]) is a low cost alternative for treating runoff in situations like rows of solar panels.

When non-rooftop disconnection is used to treat runoff, the following factors should be considered:

- The vegetated area receiving runoff must be equal to or greater in length than the disconnected surface (e.g., width of the row of solar panels)
- Runoff must sheet flow onto and across vegetated areas to maintain the disconnection
- Disconnections should be located on gradual slopes (≤ 5%) to maintain sheetflow. Level spreaders, terraces, or berms may be used to maintain sheetflow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice.
- Disconnecting impervious surfaces works best in undisturbed soils. To minimize disturbance and compaction, construction vehicles and equipment should avoid areas used for disconnection during installation of the solar panels.
- Groundcover vegetation must be maintained in good condition in those areas receiving disconnected runoff. Typically this maintenance is no different than other lawn or landscaped areas. However, areas receiving runoff should be protected (e.g., planting shrubs or trees along the perimeter) from future compaction.

Depending on the layout and number of panels installed, the disconnection of non-rooftop runoff technique may address some or all of the stormwater management requirements for an individual project. Where the imperviousness is high or there is other infrastructure (e.g., access roads, transformers), additional runoff may need to be treated. In these situations, other ESD techniques or micro-scale practices may be needed to provide stormwater management for these features.

Example 1 – Using Non-Rooftop Disconnection Where the Average Slope ≤ 5%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope does not exceed 5%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed according to Figure 1 below. In this scenario, the disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). Therefore, each row of panels is adequately disconnected and the runoff from 1.0 inch of rainfall is treated.

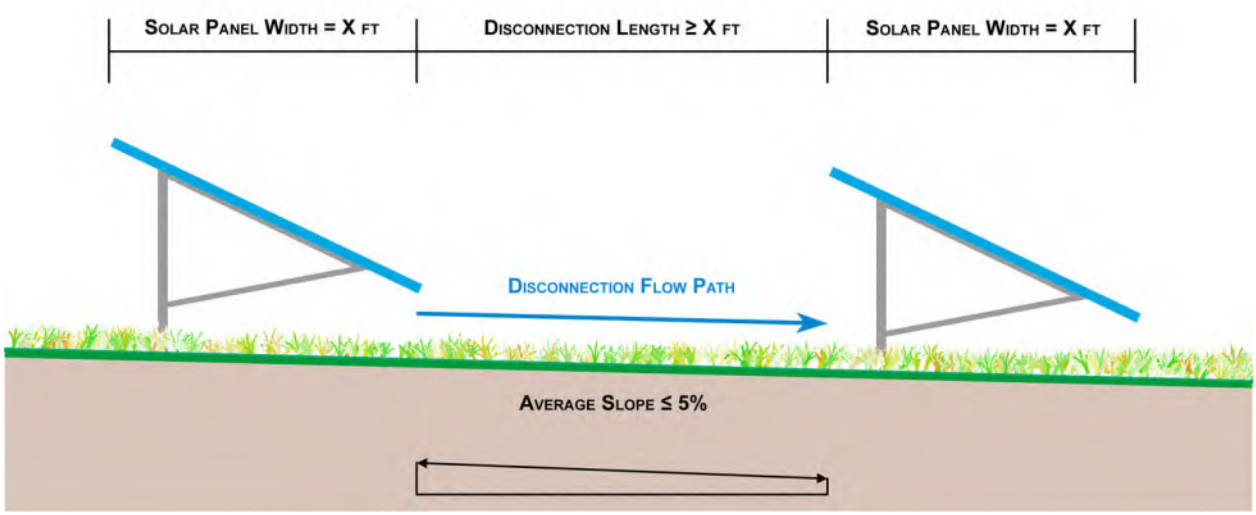


Figure 1. Typical Installation - Slope ≤ 5%

Example 2 – Using Non-Rooftop Disconnection Where the Average Slope ≥ 5% but ≤ 10%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope is greater than 5% but less than 10%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed as shown in Figure 2 below. The disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). However, in this example, a level spreader (typically 1 to 2-foot wide and 1 foot deep) has been located at the drip edge of each row of panels to dissipate energy and maintain sheetflow.

Discussion

To meet State and local stormwater management requirements, ESD must be used to the MEP to reduce runoff to reflect forested conditions. While all reasonable options for implementing ESD must be investigated, minimally, the runoff from 1 inch of rainfall must be treated. In each of the examples above, there may be additional opportunities to implement ESD techniques or practices and reduce runoff that should be explored. However, simply disconnecting the runoff from the solar panel arrays captures and treats the runoff from 1.0 inch of rainfall. Where imperviousness is low and soil conditions less optimal (e.g., HSG C or D), this may be sufficient to completely address stormwater management requirements. In more dense applications or in sandy soils, additional stormwater management may be required.

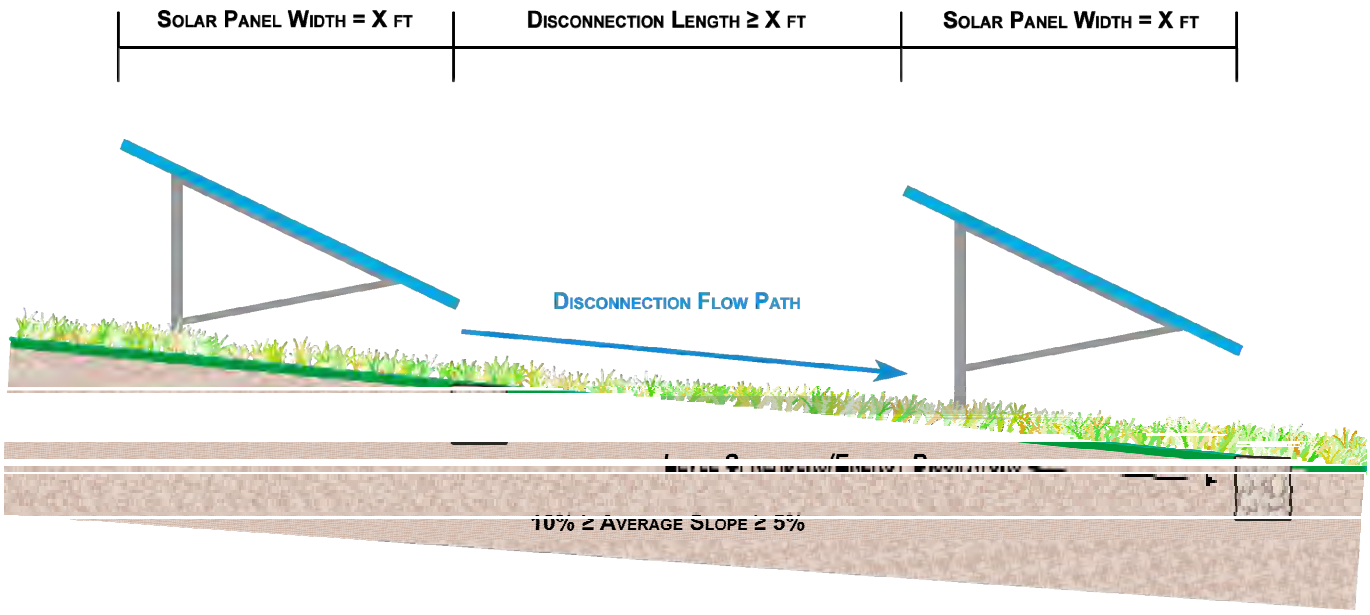


Figure 2. Typical Installation – Slope ≥ 5% but ≤ 10%

Conclusion

The primary purpose of Maryland's stormwater management program is to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Any land development project that exceeds 5,000 square feet of disturbance, including solar panel projects, must address stormwater management. However, for solar panels, stormwater management may be provided in a cost-effective manner by disconnecting each row of panels and directing runoff over the vegetated areas between the individual rows.

Resources

[1] 2000 Maryland Stormwater Design Manual, Volumes I and II, MDE, October 2000 (http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505
P: (518) 402-8111 | F: (518) 402-9029
www.dec.ny.gov

MEMORANDUM

TO: Regional Water Engineers

FROM: Robert Wither, Chief, South Permit Section

SUBJECT: Solar Panel Construction Stormwater Permitting/SWPPP Guidance

DATE: April 5, 2018

Issue

The Department is seeing an increase in the number of solar panel construction projects across New York State. This has resulted in an increase in the number of questions on Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP) requirements from design professionals because the current CGP (GP-0-15-002) does not include a specific reference to the SWPPP requirements for solar panel projects in Tables 1 and 2 of Appendix B. To address this issue, the Division of Water (DOW) has developed the following guidance on CGP/SWPPP requirements for the different types of solar panel projects.

Scenario 1

The DOW considers solar panel projects designed and constructed in accordance with the following criteria to be a "*Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)*" type project as listed in Table 1, Appendix B of the CGP. Therefore, the SWPPP for this type of project will typically just need to address erosion and sediment controls.

1. Solar panels are constructed on post or rack systems and elevated off the ground surface,
2. The panels are spaced apart so that rain water can flow off the down gradient side of the panel and continue as sheet flow across the ground surface*,
3. For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rain water sheet flows down slope*,
4. The ground surface below the panels consist of a well-established vegetative cover (see "Final Stabilization" definition in Appendix A of the CGP),
5. The project does not include the construction of any traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.),
6. Construction of the solar panels will not alter the hydrology from pre-to post development conditions (see Appendix A of the CGP, for definition of "Alter the hydrology…"). Note: The design professional shall perform the necessary site assessment/hydrology analysis to make this determination.

*Refer to Maryland's "Stormwater Design Guidance- Solar Panel Installations" attached for guidance on panel installation.
**See notes below for additional criteria.

Scenario 2

If the design and construction of the solar panels meets all the criteria above, except for item 6, the project will fall under the "*All other construction activities that include the construction or reconstruction of impervious area or alter the hydrology from pre-to post development conditions, and are not listed in Table 1*" project type as listed in Table 2, Appendix B of the CGP. Therefore, the SWPPP for this type of project must address post-construction stormwater practices designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed). The Water Quality Volume (WQv)/Runoff Reduction Volume (RRv) sizing criteria can be addressed by designing and constructing the solar panels in accordance with the criteria in items 1 – 4 above, however, the quantity control sizing criteria (Cpv, Qp and Qf) from Chapter 4 (or 10) of the Design Manual must still be addressed, unless one of the waiver criteria from Chapter 4 can be applied. **See notes below for additional criteria.

**** Notes**

- Item 1: For solar panel projects where the panels are mounted directly to the ground (i.e. no space below panel to allow for infiltration of runoff), the SWPPP must address post-construction stormwater management controls designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed).

- Item 5: For solar panel projects that include the construction of traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.), the SWPPP must address post-construction stormwater management controls for those areas of the project. This applies to both Scenario 1 and 2 above.

cc: Carol Lamb-Lafay, BWP
Dave Gasper, BWP

Arcadis U.S., Inc.
50 Fountain Plaza, Suite 600
Buffalo
New York 14202
Phone: 716 667 0900
Fax: 716 842 2612
www.arcadis.com

NYSDEC 5-Acre Waiver Approval

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5450 I F: (585) 226-9485
www.dec.ny.gov

March 29, 2021

Christian Schlesinger
ForeFront Power

RE: 5 Acre Waiver Request - Approval
Norton Solar Project
6982 Norton Road
Elba, Genesee County

Dear Mr. Schlesinger:

We have received Arcadis, Inc.'s March 22, 2021 request to disturb greater than 5 acres of soil at any one time at the above referenced site. Based upon the information contained in the request letter and the additional information and responses to Department comments received on March 23, 2021 the request to disturb greater than 5 acres has been approved. Work must be done as described the submitted plans and comply with the following conditions:

1. All erosion and sediment control features must be properly maintained during construction.
2. The *owner or operator* shall have a *qualified inspector* conduct at least two (2) site inspections in accordance with the General Permit every seven (7) calendar days for so long as greater than five (5) acres of soil remain disturbed and allow two (2) calendar days between inspections.
3. In areas where soil disturbance activity has been temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2016.
4. The *owner or operator* shall install any additional measures needed to protect water quality.
5. Establish a SWPPP communication track to be followed among permittee, inspector, contractor, municipality, and this office to secure prompt (within 48 hours) corrections to site deficiencies identified by each inspection.
6. Any changes to the SWPPP must be clearly identified in the on-site SWPPP.

7. Documents related to revisions submitted to the Department shall be kept with the project's SWPPP.
8. The owner or operator includes the requirements above in their SWPPP (may be incorporated by inclusion of this document in site log book).
9. This approval shall expire when all construction work described in the request for the above referenced project has been completed and all exposed soils have achieved final stabilization.
10. Compliance with other ECL permits for this site must be maintained for this approval to remain in full force and effect.

Should you have any questions regarding this letter or the requirements of our general permits, please contact me at (585) 226-5427 or Luke.Scannell@dec.ny.gov.

Sincerely,

Luke Scannell

Luke Scannell, PhD, P.E.
Environmental Engineer
Division of Water

Ecc: Tara Blum – NYSDEC
Meghan Platt – Arcadis
Rachel Smith – Arcadis

Genesee County Soil & Water Conservation District Planting, Maintenance and Monitoring Plan Review Letter

GENESEE COUNTY
SOIL & WATER CONSERVATION DISTRICT
USDA Center, 29 Liberty Street, Suite 3, Batavia, NY 14020-3247
OFFICE (585) 343-2362 Ext. 5

January 26th, 2021

ForeFront Power, LLC
100 Montgomery St. #1400
San Francisco, CA 94104

We recently reviewed the planting, maintenance and monitoring plan prepared by Arcadis of New York, Inc for Forefront Power, LLC. The plan describes the planting, monitoring and adaptive maintenance plan for the Norton Solar Project (NY-20-0003) in Elba, New York.

Genesee County Soil and Water has reviewed the plan as written and has the following comments on the species selection along with its planting and monitoring plan. The seven different species of trees and shrubs are native to the northeast and appear to be selected appropriately for the site conditions. According to the planting plan, the use of Ernst seed mix (ERNMX-186) is to be used as a low growing grass mix under the solar panels. Of the seven different plant species in the mix, all are both (native & introduced) or native except for *Festuca ovina* (Sheep Fescue), *Festuca brevipila, Beacon* (Hard Fescue) and *Festuca ovina var. duriuscula, Gladiator* (Hard Fescue, Gladiator) which are classified as introduced by the United States Department of Agriculture. Although these fescues are classified as introduced, they are commonly sold in various turf and grass mixes and likely will not cause any issues. The Ernst seed mix (ERNMX-610) selected to be used as the pollinator buffer includes twenty-five different species all of which are native according to the USDA. It appears the planting, Maintenance and monitoring plan will be sufficient for the Norton Solar Project. Genesee County Soil & Water supports the plan as written.

This letter can be used a part of the planning process for the solar project.

Any other questions- feel free to call.

Tim Welch, Technician

Single- and Three-Line Diagrams

GENERAL NOTES:

1. INVERTER DG INSTALLATION DESIGNED IN ACCORDANCE WITH NGRID NY INTERCONNECTION STANDARDS FOR LOCATIONS NOT LARGER THAN 5MW.
2. ISOLATION TRANSFORMER SHALL BE IN COMPLIANCE WITH NGRID STANDARDS.
3. ALL EQUIPMENT BETWEEN POLE 4 AND THE POINT OF INTERCONNECTION ASSUMED TO BE INSTALLED ABOVE GROUND AND WITH AN OVERHEAD INTERCONNECTION.
4. ALL EQUIPMENT SUPPLIED SHALL BE UL LISTED AND RATED FOR PROSPECTIVE FAULT DUTY.
5. METERING SHALL BE IN ACCORDANCE WITH NATIONAL GRID STANDARD ESB 753 - FIGURE 2.
6. EQUIPMENT ON THE NATIONAL GRID SIDE OF THE PCC IS NOT SHOWN ON THIS DRAWING.
7. CUSTOMER OWNED MANUAL OPERATED DISCONNECT MEANS, TO BE GANG OPERATED. UTILITY LOCKABLE 24/7 ACCESSIBLE AND GROUNDABLE.
8. ALL VT AND CT WINDING CONFIGURATIONS ARE WYE GROUNDED

EQUIPMENT LIST:

1. GENERATOR DISCONNECT SWITCH: SERVICE ENTRANCE RATED, VISIBLE LOAD BREAK, LOCKABLE, GANG-OPERATED DISCONNECT SWITCH, POLE MOUNTED. SWITCH SHALL BE ACCESSIBLE BY AND VISIBLE TO UTILITY 24/7. PER NEC, THIS SHALL BE LABELED AS GENERATOR DISCONNECT AND HAVE A PERMANENT DIRECTORY PLAQUE INDICATING ITS LOCATION MOUNTED AT THE SERVICE ENTRANCE.
2. FOREFRONT POWER METER PROVIDED AND INSTALLED PER MANUFACTURER REQUIREMENTS.
3. SOLAR RATED, PRESSURE OPTIMIZED, 3 PHASE PAD MOUNT, STEP-UP, 2-WINDING TRANSFORMER WITH ENVIRONMENTAL CLASS FLUID PER US EPA ETV REQUIREMENTS, HIGH VOLTAGE 34.5KV, 150KV BIL, WYE WINDING CONFIGURATION; LOW VOLTAGE WINDINGS 600V 30KV BIIL, WYE WINDING CONFIGURATION, FOUR (4) TAPS @ 34.5KV, 6 PRIMARY FEED THROUGH BUSHINGS, 35KV 600AMP BUSHING WELLS WITH BUSHING WELL INSERTS INSTALLED, INTERNAL SURGE ARRESTER AND 600A ELBOWS. TRANSFORMER TO BE PROVIDED WITH MANUFACTURER SIZED BAY-O-NET LOAD BREAK EXPULSION FUSE WITH CURRENT LIMITING UNDER OIL BACKUP FUSE, TRANSFORMER SHALL HAVE INTEGRAL LOAD BREAK UNDER OIL ON-OFF SWITCH, INVERTERS REQUIRE: ELECTROSTATIC SHIELD REQUIRED ON LOW VOLTAGE WINDING, SHIELD WINDING GROUNDED ON THE TANK BETWEEN THE LOW VOLTAGE AND HIGH VOLTAGE WINDINGS, TRANSFORMER IMPEDANCE SHALL BE 5.75% +/- 10%, X/R = 7

PROJECT INFORMATION	
UTILITY	NATIONAL GRID
AC SYSTEM SIZE (MW)	5.00
DC SYSTEM SIZE (MW)	7.233
DC/AC RATIO	1.45
PV MODULES	LONGI SOLAR LR6-72HPH-380M
QUANTITY	19,035
LAT/LONG	43.0756° / -78.1457°
TITLT ANGLE	±60°
AZIMUTH	180°

A	INVERTER
INVERTER	SUNGROW SG125HV
QUANTITY	40
MAX AC KW	125
MAX AC KVA	125
AGGREGATE KVA	5000
OUTPUT VOLTAGE V	600
MAX OUTPUT CURRENT A	120
POWER FACTOR	-0.8 LAG TO 0.8 LEAD
POWER FACTOR SETTING	1
UL1741 AND IEEE1547	YES

INVERTER PROTECTION SETTINGS

DEVICE	PICKUP	CLEARING TIME (SEC)
81U	≤ 56.5 Hz	0.16
81U	≤ 58.5 Hz	300
8IO	61 Hz ≤ f < 62.0 Hz	300
81O	> 62 Hz	0.16
27	< 50% OF NOMINAL	0.16
27	50% ≤ V < 88% OF NOMINAL	2
59	110% < V < 120% OF NOMINAL	1
59	≥ 120% OF NOMINAL	0.16

B	TRANSFORMER
MANUFACTURER	EATON-COOPER
QUANTITY	2
KVA (TEMP RISE)	2500
HV KV BIL	150
LV KV BIL	30
NOMINAL HIGH VOLTAGE	34,500
NOMINAL LOW VOLTAGE	600
IMPEDANCE	5.75%, +/-7.5% @2500 KVA
X/R	10
PRIMARY WINDING	DELTA
SECONDARY WINDING	GRDY

C	PRIMARY METER
MANUFACTURER	SEL
MODEL NUMBER	735VB10910EXXXXXX16102XX
QUANTITY	1

D	METER INSTRUMENTATION ASSEMBLY
MANUFACTURER	ARTECHE
INSTRUMENTATION CLUSTER MODEL	ME-36
INSTRUMENTATION CLUSTER P/N	771010003-H
QUANTITY	1
PT MODEL NUMBER	URS-36
PT PART NUMBER	757860175
PT QUANTITY	3
PT RATIO	175:1
CT MODEL NUMBER	CRF-36
CT PART NUMBER	756276040-H
CT QUANTITY	3
CT RATIO	150:5

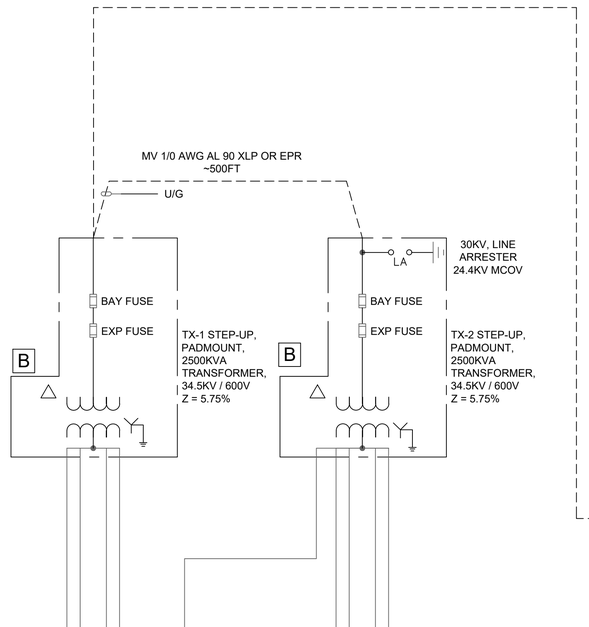
E	GANG OPERATED LOCKABLE AIR SWITCH
MANUFACTURER	S&C
MODEL NUMBER	ALDUTI-RUPTER
QUANTITY	1
AMPS	1200

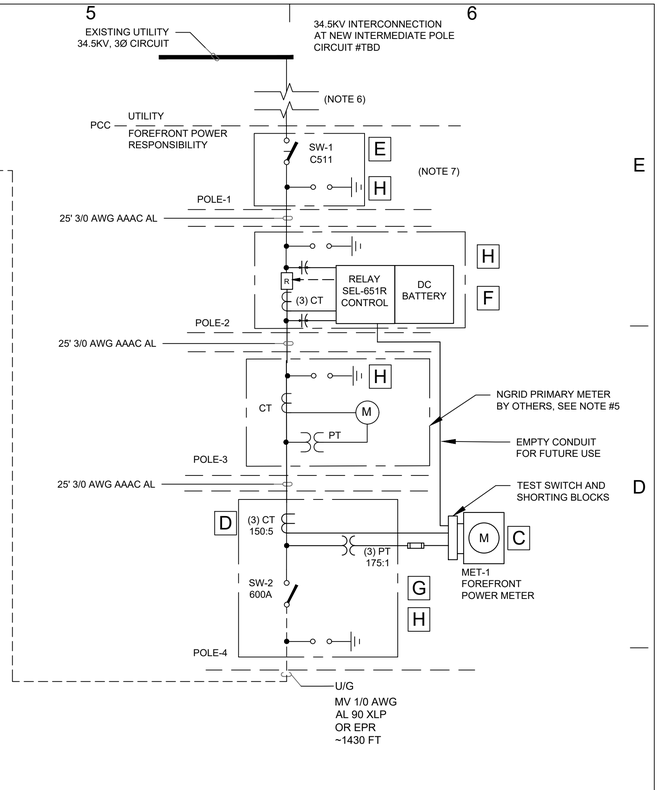
F	PRIMARY RECLOSER
MANUFACTURER	G&W
MODEL NUMBER	VIPER-S
QUANTITY	1
RATING	38 KV, 800A

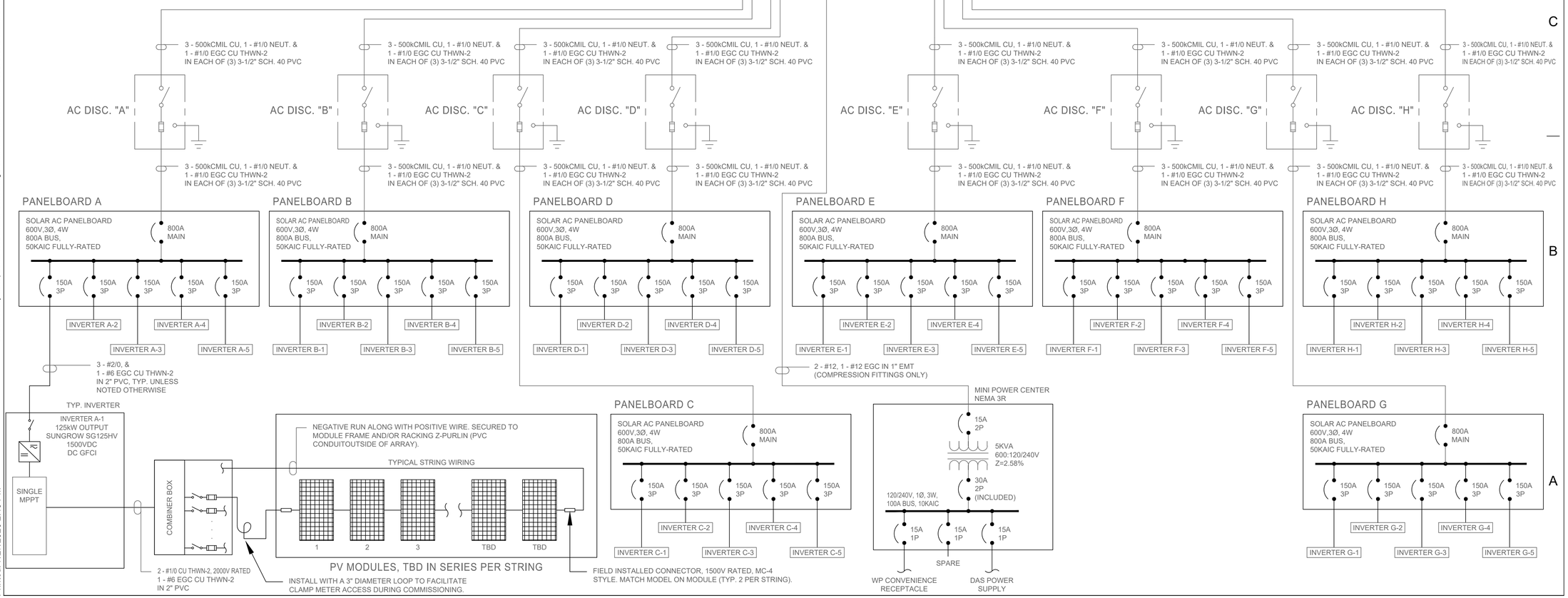
G	DISCONNECT SWITCH
MANUFACTURER	COOPER
MODEL NUMBER	127738
QUANTITY	3
RATING	600A

H	LIGHTNING ARRESTER
MANUFACTURER	OHIO BRASS OAE
MODEL NUMBER	213724 OAE
QUANTITY	15
MCOV	24.4
DUTY CYCLE	30

I	LIGHTNING ARRESTER
MANUFACTURER	TYCO
MODEL NUMBER	ELB-35-600-ASTR-30
QUANTITY	6
MCOV	24.4
DUTY CYCLE	30







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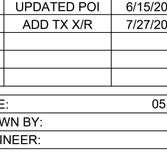


NOT FOR CONSTRUCTION

NY-CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

5MW AC

6982 NORTON RD,
ELBA, NY 14058

PROJECT NUMBER
NY-20-0003

SHEET TITLE
SINGLE LINE DIAGRAM

SHEET SIZE
ANSI "B"
11" X 17"

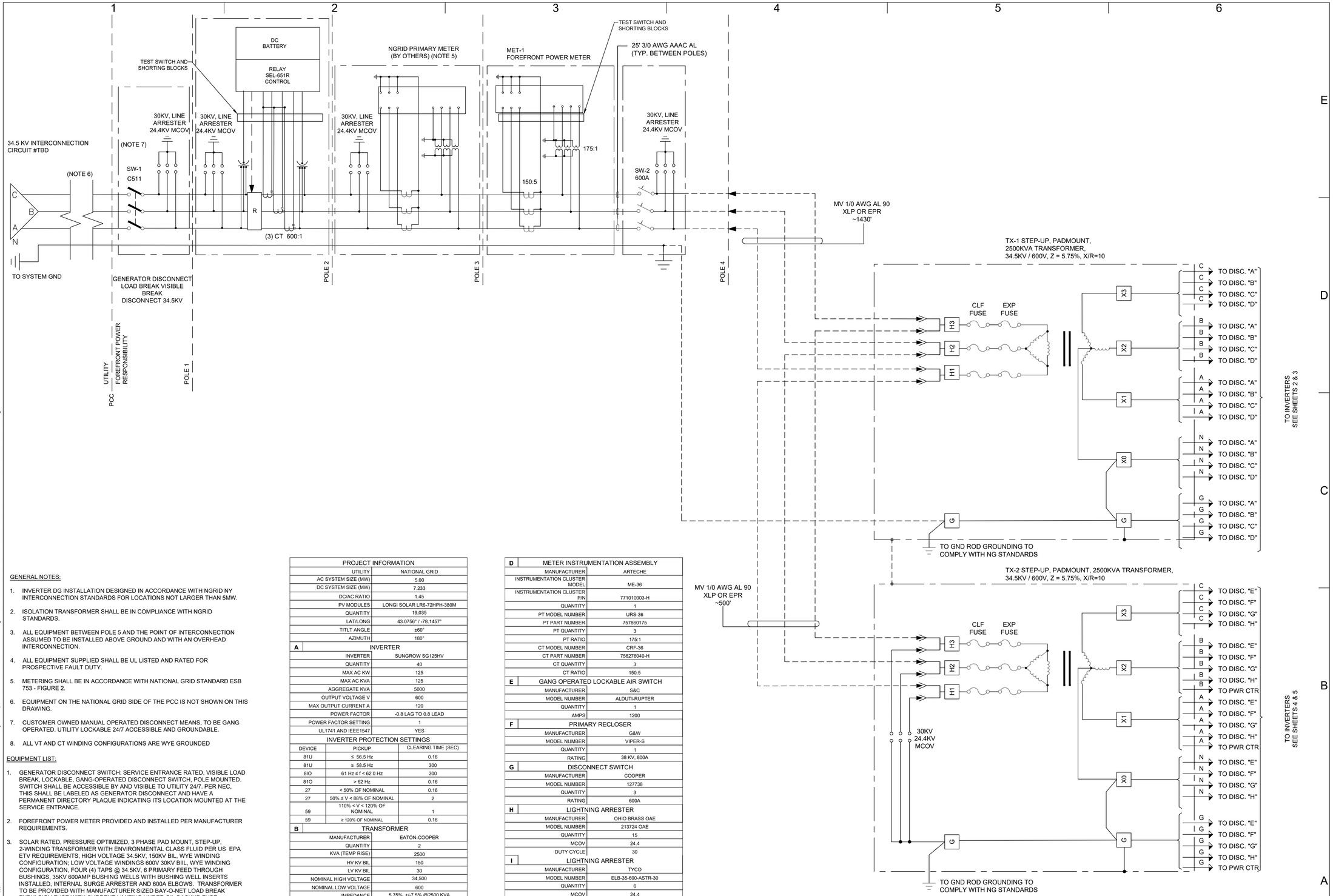
NO.	REVISION	DATE	INIT.
1	APPLICATION	5/12/20	JOJ
2	UPDATED POI	6/15/20	JAC
3	ADD TX X/R	7/27/20	SR

DATE:	05.12.2020
DRAWN BY:	JOJ
ENGINEER:	SR
APPROVED BY:	SR

PROJECT PHASE:
PRELIMINARY

SCALE:
NTS

SHEET NO.:
E-201.1



GENERAL NOTES:

1. INVERTER DG INSTALLATION DESIGNED IN ACCORDANCE WITH NGRID NY INTERCONNECTION STANDARDS FOR LOCATIONS NOT LARGER THAN 5MW.
2. ISOLATION TRANSFORMER SHALL BE IN COMPLIANCE WITH NGRID STANDARDS.
3. ALL EQUIPMENT BETWEEN POLE 5 AND THE POINT OF INTERCONNECTION ASSUMED TO BE INSTALLED ABOVE GROUND AND WITH AN OVERHEAD INTERCONNECTION.
4. ALL EQUIPMENT SUPPLIED SHALL BE UL LISTED AND RATED FOR PROSPECTIVE FAULT DUTY.
5. METERING SHALL BE IN ACCORDANCE WITH NATIONAL GRID STANDARD ESB 753 - FIGURE 2.
6. EQUIPMENT ON THE NATIONAL GRID SIDE OF THE PCC IS NOT SHOWN ON THIS DRAWING.
7. CUSTOMER OWNED MANUAL OPERATED DISCONNECT MEANS, TO BE GANG OPERATED. UTILITY LOCKABLE 24/7 ACCESSIBLE AND GROUNDABLE.
8. ALL VT AND CT WINDING CONFIGURATIONS ARE WYE GROUNDED

EQUIPMENT LIST:

1. GENERATOR DISCONNECT SWITCH: SERVICE ENTRANCE RATED, VISIBLE LOAD BREAK, LOCKABLE, GANG-OPERATED DISCONNECT SWITCH, POLE MOUNTED. SWITCH SHALL BE ACCESSIBLE BY AND VISIBLE TO UTILITY 24/7. PER NEC, THIS SHALL BE LABELED AS GENERATOR DISCONNECT AND HAVE A PERMANENT DIRECTORY PLAQUE INDICATING ITS LOCATION MOUNTED AT THE SERVICE ENTRANCE.
2. FOREFRONT POWER METER PROVIDED AND INSTALLED PER MANUFACTURER REQUIREMENTS.
3. SOLAR RATED, PRESSURE OPTIMIZED, 3 PHASE PAD MOUNT, STEP-UP, 2-WINDING TRANSFORMER WITH ENVIRONMENTAL CLASS FLUID PER US EPA ETV REQUIREMENTS, HIGH VOLTAGE 34.5KV, 150KV BIL, WYE WINDING CONFIGURATION; LOW VOLTAGE WINDINGS 600V 30KV BIL, WYE WINDING CONFIGURATION, FOUR (4) TAPS @ 34.5KV, 6 PRIMARY FEED THROUGH BUSHINGS, 35KV 600AMP BUSHING WELLS WITH BUSHING WELL INSERTS INSTALLED, INTERNAL SURGE ARRESTER AND 600A ELBOWS. TRANSFORMER TO BE PROVIDED WITH MANUFACTURER SIZED BAY-O-NET LOAD BREAK EXPULSION FUSE WITH CURRENT LIMITING UNDER OIL BACKUP FUSE. TRANSFORMER SHALL HAVE INTEGRAL LOAD BREAK UNDER OIL ON-OFF SWITCH, INVERTERS REQUIRE: ELECTROSTATIC SHIELD REQUIRED ON LOW VOLTAGE WINDING, SHIELD WINDING GROUNDED ON THE TANK BETWEEN THE LOW VOLTAGE AND HIGH VOLTAGE WINDINGS, TRANSFORMER IMPEDANCE SHALL BE 5.75% +/- 10%, X/R = 7

PROJECT INFORMATION	
UTILITY	NATIONAL GRID
AC SYSTEM SIZE (MW)	5.00
DC SYSTEM SIZE (MW)	7.233
DC/AC RATIO	1.45
PV MODULES	LONGI SOLAR LR6-72HPH-380M
QUANTITY	19,035
LAT/LONG	43.0756° / -78.1457°
TITLT ANGLE	±60°
AZIMUTH	180°

A	INVERTER
INVERTER	SUNGROW SG125HV
QUANTITY	40
MAX AC KW	125
MAX AC KVA	125
AGGREGATE KVA	5000
OUTPUT VOLTAGE V	600
MAX OUTPUT CURRENT A	120
POWER FACTOR	-0.8 LAG TO 0.8 LEAD
POWER FACTOR SETTING	1
UL1741 AND IEEE1547	YES

INVERTER PROTECTION SETTINGS		
DEVICE	PICKUP	CLEARING TIME (SEC)
81U	≤ 56.5 Hz	0.16
81U	≤ 58.5 Hz	300
81O	61 Hz ≤ f < 62.0 Hz	300
81O	> 62 Hz	0.16
27	< 50% OF NOMINAL	0.16
27	50% ≤ V < 88% OF NOMINAL	2
59	110% < V < 120% OF NOMINAL	1
59	≥ 120% OF NOMINAL	0.16

B	TRANSFORMER
MANUFACTURER	EATON-COOPER
QUANTITY	2
KVA (TEMP RISE)	2500
HV KV BIL	150
LV KV BIL	30
NOMINAL HIGH VOLTAGE	34,500
NOMINAL LOW VOLTAGE	600
IMPEDANCE	5.75%, +/-7.5% @2500 KVA
X/R	10
PRIMARY WINDING	DELTA
SECONDARY WINDING	GRDY

C	PRIMARY METER
MANUFACTURER	SEL
MODEL NUMBER	735VB10910EXXXXXX16102XX
QUANTITY	1

D	METER INSTRUMENTATION ASSEMBLY
MANUFACTURER	ARTECHE
INSTRUMENTATION CLUSTER MODEL	ME-36
INSTRUMENTATION CLUSTER P/N	771010003-H
QUANTITY	1
PT MODEL NUMBER	URS-36
PT PART NUMBER	757860175
PT QUANTITY	3
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CT MODEL NUMBER	CRF-36
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State of N.Y. Certificate of Authorization: 0008671 / 0008931

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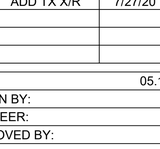

NOT FOR CONSTRUCTION

NY-CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

5MW AC

6982 NORTON RD,
ELBA, NY 14058

PROJECT NUMBER
NY-20-0003

SHEET TITLE
THREE LINE DIAGRAM

SHEET SIZE
ANSI "B"
11" X 17"

NO.	REVISION	DATE	INIT.
1	APPLICATION	5/12/20	JOJ
2	UPDATED POI	6/15/20	JAC
3	ADD TX X/R	7/27/20	SR

DATE:	05.12.2020
DRAWN BY:	JOJ
ENGINEER:	SR
APPROVED BY:	SR

PROJECT PHASE:
PRELIMINARY

SCALE:
NTS

SHEET NO.:
E-202.1

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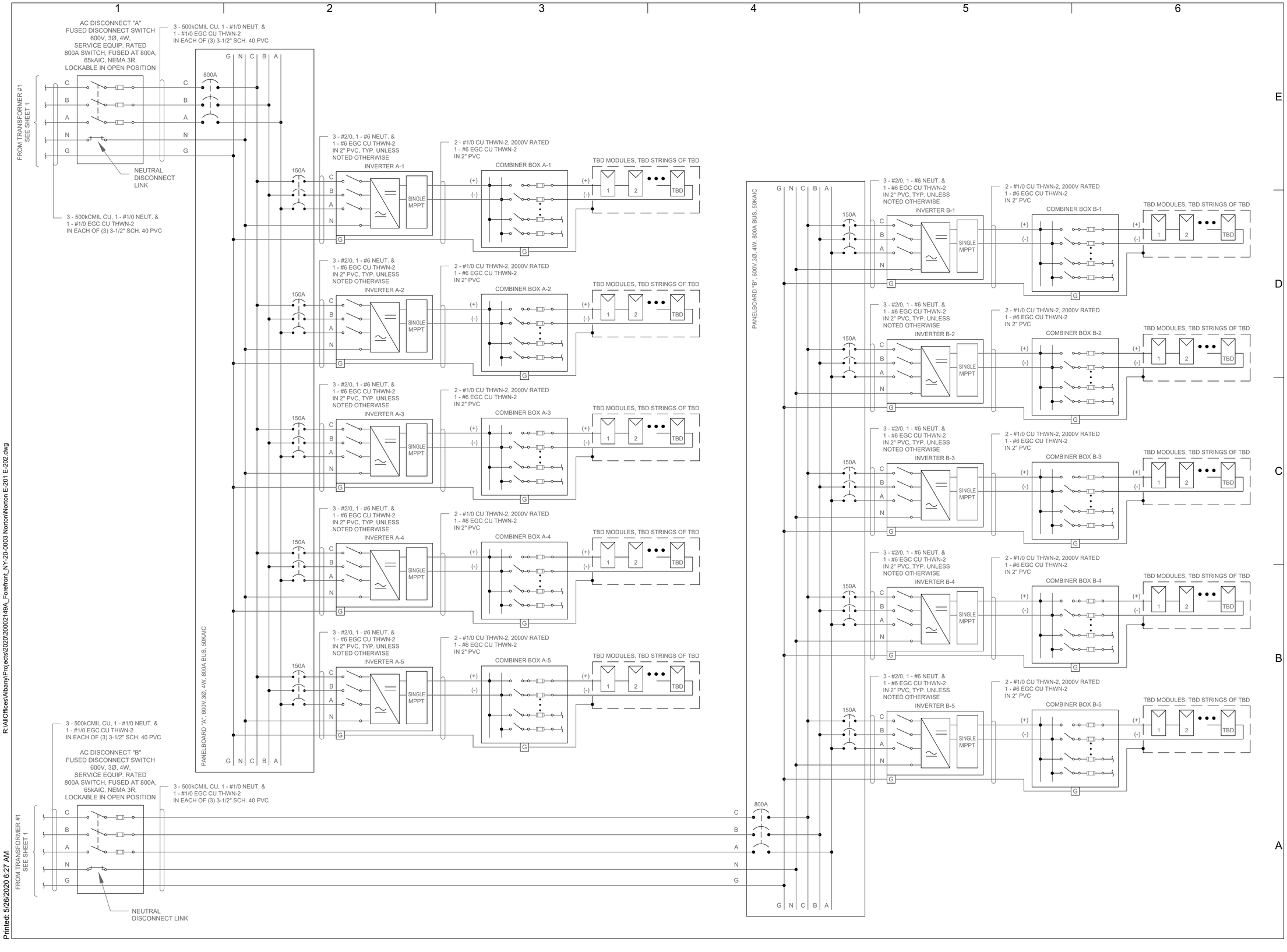

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NY-CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

5MW AC

6982 NORTON RD,
ELBA, NY 14058

PROJECT NUMBER	NY-20-0003
SHEET TITLE	THREE LINE DIAGRAM
SHEET SIZE	ANSI "B" 11" X 17"

NO.	REVISION	DATE	INIT.
1	APPLICATION	5/12/20	JOJ

DATE:	05.12.2020
DRAWN BY:	JOJ
ENGINEER:	SR
APPROVED BY:	SR

PROJECT PHASE:	PRELIMINARY
SCALE:	NTS
SHEET NO.:	E-202.2

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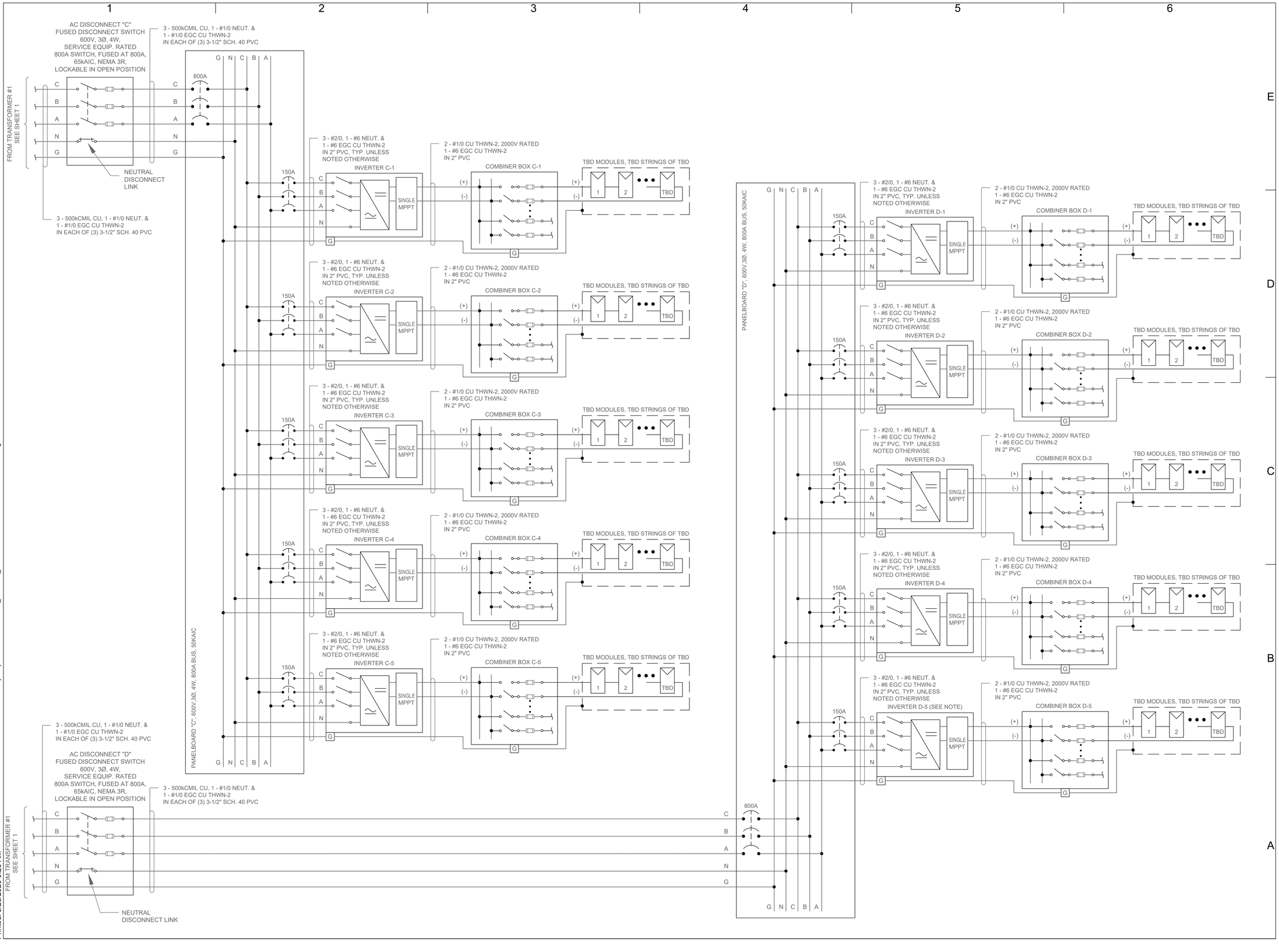

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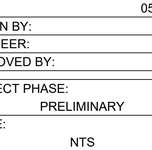

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NY-CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

5MW AC

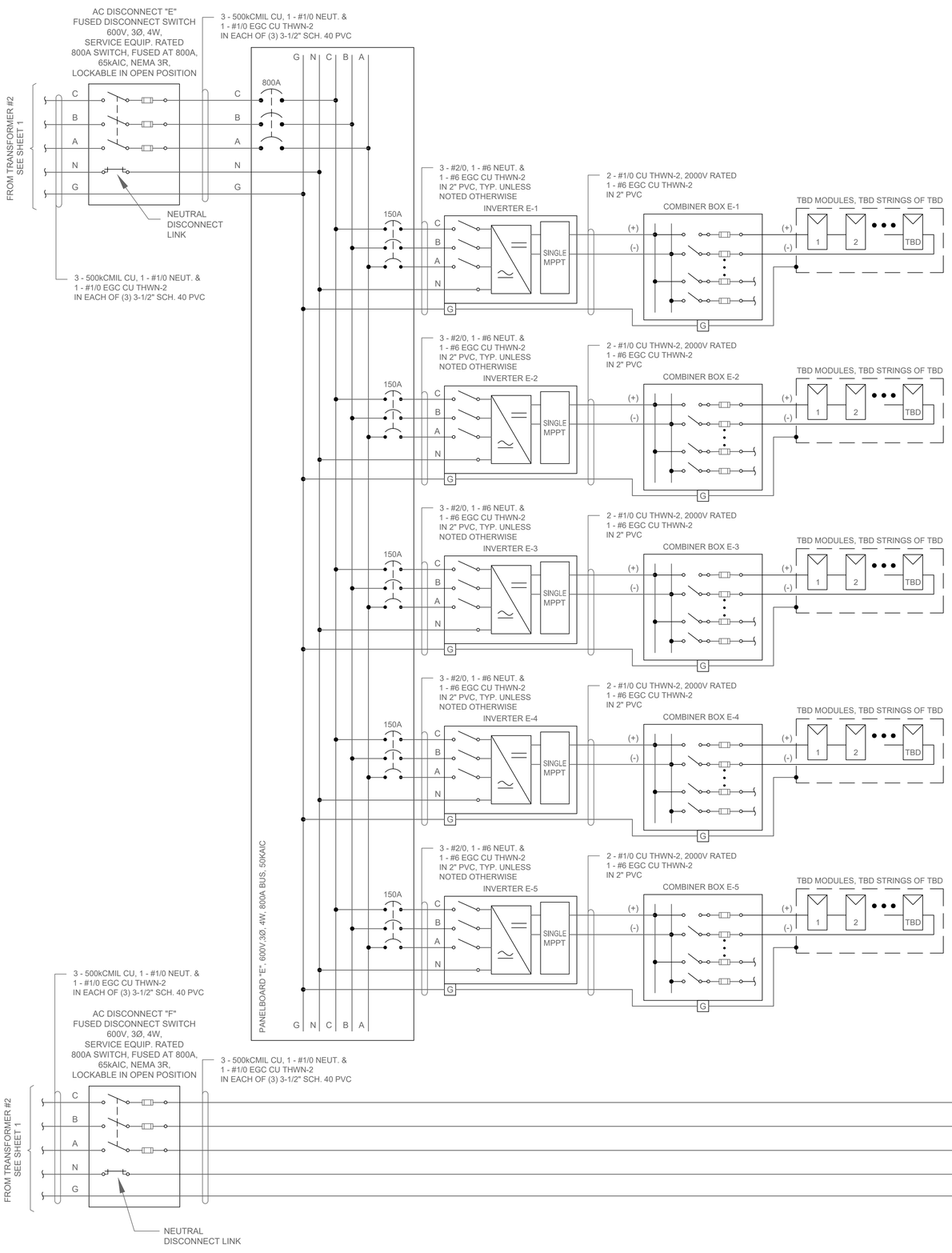
6982 NORTON RD,
ELBA, NY 14058

PROJECT NUMBER	NY-20-0003
SHEET TITLE	THREE LINE DIAGRAM
SHEET SIZE	ANSI "B" 11" X 17"

NO.	REVISION	DATE	INIT.
1	APPLICATION	5/12/20	JOJ

DATE:	05.12.2020
DRAWN BY:	JOJ
ENGINEER:	SR
APPROVED BY:	SR

PROJECT PHASE:	PRELIMINARY
SCALE:	NTS
SHEET NO.:	E-202.3



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STATE OF NEW YORK
SCOTT DAVID REYNOLDS
095891
LICENSED PROFESSIONAL ENGINEER

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NY-CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

5MW AC

6982 NORTON RD,
ELBA, NY 14058

PROJECT NUMBER	NY-20-0003
SHEET TITLE	THREE LINE DIAGRAM
SHEET SIZE	ANSI "B" 11" X 17"

NO.	REVISION	DATE	INIT.
1	APPLICATION	5/12/20	JOJ

DATE:	05.12.2020
DRAWN BY:	JOJ
ENGINEER:	SR
APPROVED BY:	SR

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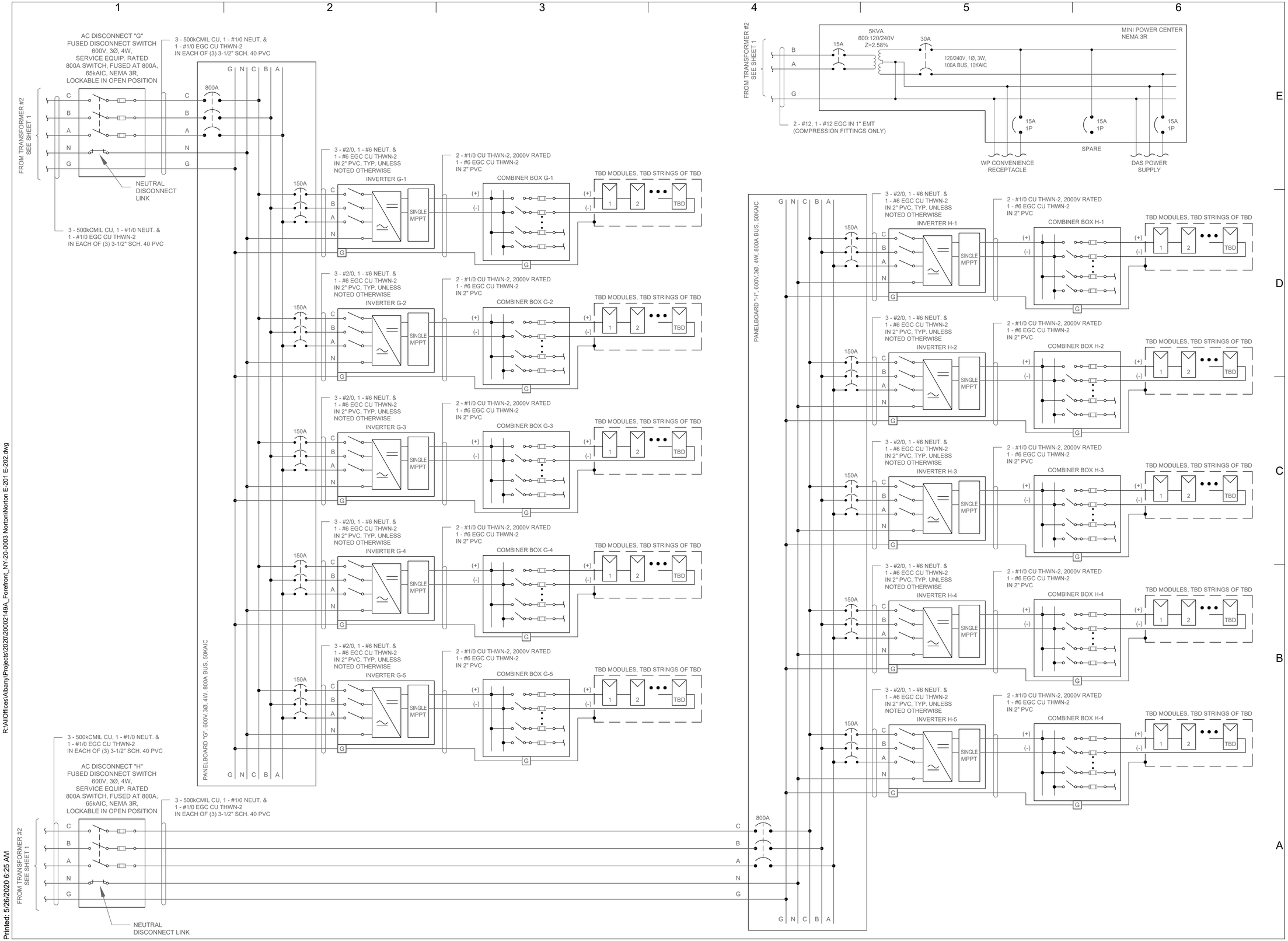

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NY-CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

5MW AC

6982 NORTON RD,
ELBA, NY 14058

PROJECT NUMBER
NY-20-0005

SHEET TITLE
THREE LINE DIAGRAM

SHEET SIZE
ANSI "B"
11" X 17"

NO.	REVISION	DATE	INIT.
1	APPLICATION	5/12/20	JOJ

DATE:	05.06.2020
DRAWN BY:	JOJ
ENGINEER:	SR
APPROVED BY:	SR

PROJECT PHASE:
PRELIMINARY

SCALE:
NTS

SHEET NO.:
E-202.5

Planting, Maintenance, and Monitoring Plan (Including Visual Assessment)

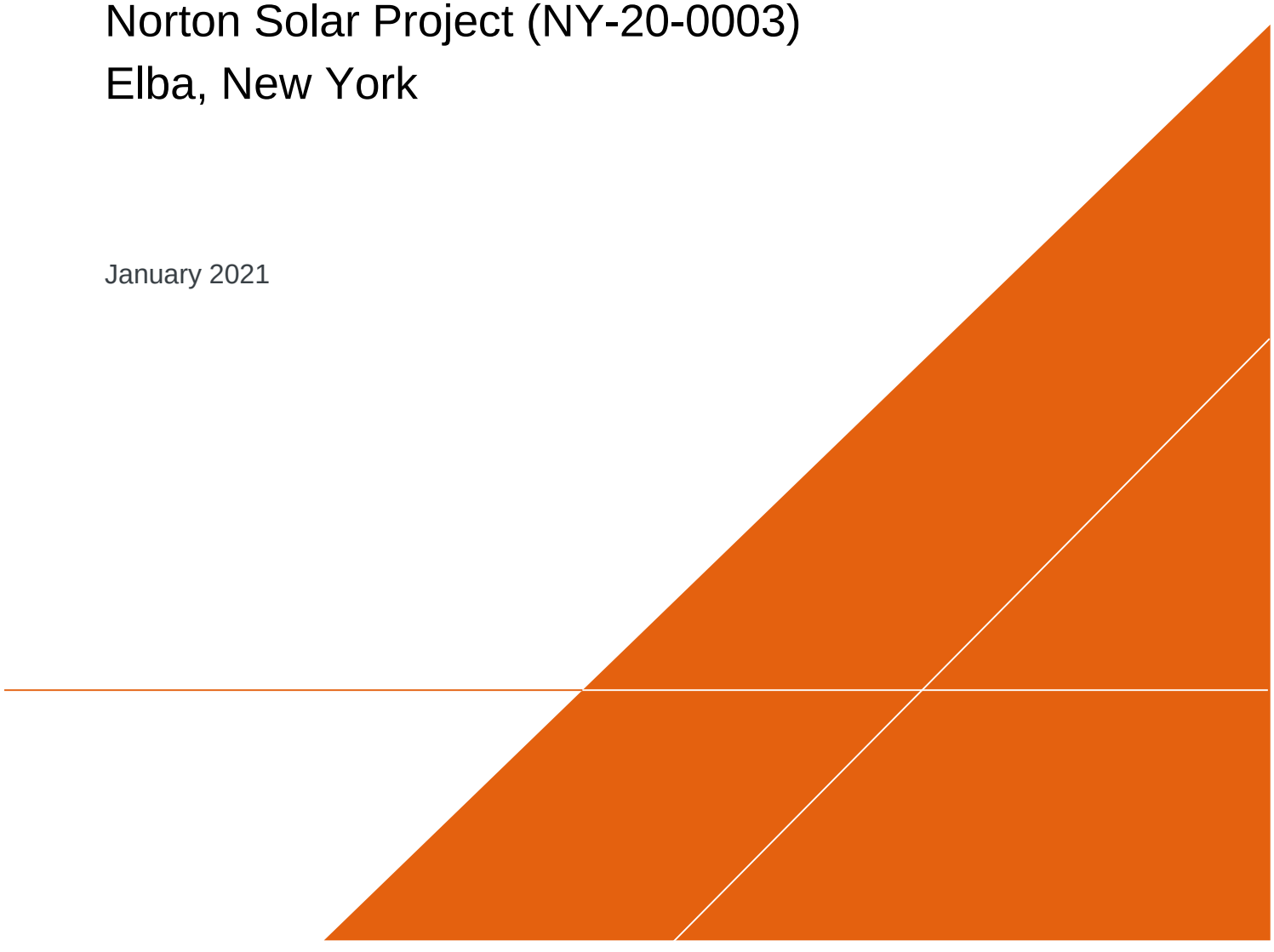
ARCADIS Design & Consultancy for natural and built assets

FFP NY Elba Project1, LLC

PLANTING, MAINTENANCE, AND MONITORING PLAN

Norton Solar Project (NY-20-0003)
Elba, New York

January 2021



PLANTING, MAINTENANCE AND MONITORING PLAN

Norton Solar Project (NY-20-0003)
Elba, New York

Prepared for:

FFP NY Elba Project1, LLC.
101 Summer Street, 2nd Floor
Boston, MA 02110

Prepared by:

Arcadis of New York, Inc.
One Lincoln Center
110 West Fayette Street
Suite 300
Syracuse
New York 13202
Tel 315 446 9120
Fax 315 449 0017

Our Ref.:

30052124

Date:

January 2021

CONTENTS

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis of New York, Inc.
AMSL	above mean sea level
FFP	FFP NY Elba Project1, LLC.
NYSDEC	New York State Department of Environmental Conservation
PMMP	Planting, Maintenance and Monitoring Plan
USDA NRCS	United States Department of Agriculture Natural Resources Conservation Service

1 INTRODUCTION

On behalf of FFP NY Elba Project1, LLC (FFP), Arcadis of New York, Inc. (Arcadis) has prepared this Planting, Maintenance and Monitoring Plan (PMMP) to address requirements of the vegetation screening and plantings associated with the proposed solar photovoltaic (PV) array system at 6982 Norton Road in the Town of Elba, New York. A visual assessment (Attachment A) and a screening and landscaping plan (L-01 of the Technical Drawings; Attachment B) accompany this PMMP.

This PMMP provides the details of the planting plan, the maintenance and monitoring of plantings and potential adaptive management processes to achieve the performance standards specified in the Town of Elba draft Solar Energy Law (December 4, 2019). The planting plan provides the details and design for establishing both native grass and pollinator herbaceous groundcover and visual screening using native tree and shrub plantings within and around the perimeter of the proposed solar PV array system. The maintenance and monitoring activities are detailed to ensure success of the plantings and adaptive management processes are provided to allow potential modifications to plantings or maintenance activities to ensure achievement of the specified performance standards. The following sections provide further information on these three elements of the PMMP.

2 PLANTING PLAN

This section details the components and conceptual design of the planting plan, which includes the objectives, general site characteristics (topography, soil conditions, etc.), planting criteria, planting materials, and targeted installation areas.

2.1 Planting Objectives

The primary objectives of the planting plan are to:

- Develop a native habitat community to support birds and pollinator species through the establishment of foraging and nesting habitats;
- Establish an aesthetic living screen composed of native evergreen and shrub species to reduce the visual profile of the solar farm; and
- Maintain and adapt plantings to effectively manage the habitat within and surrounding the solar farm to support a balance of sustainable energy resources and wildlife usage.

2.2 Topography and Site Characteristics

The solar PV array system is sited on approximately 45.0 acres of agricultural fields with a current topographic relief from approximately 722 feet to 750 feet above mean sea level (AMSL), as shown on C-01 of the Technical Drawings.

2.3 Soil

The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS), Web Soil Survey (websoilsurvey.sc/egov.usda.gov) identifies five soil series occurring within the limits of the proposed solar PV array system; description of these soil series are provided below.

Collamer silt loam: “This series are deep, moderately well-drained, medium-textured soils that formed in lake deposits… consisting of silt and very fine sands. The surface layer is very dark grayish-brown silt loam 8 to 10 inches thick with 3 to 5 percent organic matter with porosity and high water-hold capacity. The subsurface layer is a leached layer of brown silt loam that contains some faint mottling… which extends to a depth of 14 to 18 inches… These soils tend to occupy undulating plains that rise slightly above the wetter landscape…” (USDA NRCS 1969).

Hilton loam: “This series consists of nearly level and gently sloping, medium-textured soils that are deep and moderately well-drained…they receive a moderate amount of runoff from higher soils and stay wet for longer periods of time than surrounding Ontario soils. The surface layer is dark grayish-brown loam that ranges from 7 to 11 inches and has a moderately high organic matter. The subsurface layer is brown to pale-brown loam that extends to a depth of 12 to 18 inches… with few mottles is well aerated and good for plant rooting. The subsoil is reddish-brown clay loam to heavy loan with fine gravels that extends to a depth of 30 to 42 inches…” (USDA NRCS 1969).

Niagara silt loam: “This series consists of deep, nearly level, somewhat poorly drained soils that formed in calcareous lake deposits… consisting of mainly silt and very fine sand with moderate amounts of clay. The surface layer in cultivated fields is very dark gray to very dark grayish-brown silt loam that ranges from 7 to 10 inches and 5 to 8 percent organic matter. The sublayer contains a thin leached layer of strongly mottled grayish-brown silt loam or very fine sandy loam that extends to a depth of 12 to 18 inches. The subsoil is strongly mottled reddish-brown heavy silt clay loam that extends to a depth ranging from 24 to 40 inches….” (USDA NRCS 1969).

Odessa silt loam: “This series consists of deep, nearly level and gently sloping soils that are somewhat poorly drained… formed in silt and clay laid down in glacial lakes. The surface layer is 7 to 10 inches thick of very dark grayish-brown silt loam that contains a moderately large amount of organic matter with a high moisture capacity. The subsurface layer extends to a depth of 12 to 16 inches, consisting of light brownish-gray heavy silt loam with many yellowish-brown to strong-brown mottles. The subsoil is neutral to slightly calcareous consisting of reddish-brown silty clay or clay that is mottled with brown to reddish gray… these receive runoff from higher soil…” (USDA NRCS 1969).

Ontario loam: “This deep or very deep, well-drained soil is formed in loamy till which is strongly influenced by limestone and sandstone. They are nearly level to very steep soils on convex upland till plains and drumlins. Slope ranges from 0 to 60 percent.…Typically, the surface layer is dark brown loam or stony loam with moderate organic matter... The upper surface layer in cultivated fields extends up to 10 inches with subsoil layer down to around 16 inches that ranges from brown loam to fine sandy loam to reddish-brown clay to gravelly loam… These soils tend to dry out most rapidly in spring and receive little accumulate runoff from adjacent areas…” (USDA NRCS 1969).

The soil mapping results indicate potentially favorable growing conditions from the occurrence of primarily fertile silty loams and from cultivated crop practices. Despite the existing soil conditions and former agricultural use, it is still recommended to obtain a current soil analysis report to address any possible amendments required for seed bed preparation or tree and shrub planting areas. Representative project site soils will be collected and analyzed by an approved agricultural laboratory and results will be incorporated within the site preparation specifications for topsoil ahead of seed bed preparation and tree and shrub plantings.

2.4 Planting Plan Criteria

The draft Solar Energy Law sets forth the requirements for landscaped screening species, spacing, and location relative to the solar PV array system, as well as performance criteria related to the survivability of the plantings. Further discussion on these criteria are provided below in Section 3.2.

2.5 Planting Design and Materials

The proposed planting plan design includes three elements:

- Use of a native and naturalized grass seed mix for use under solar panel arrays and within maintenance pathways surrounding the arrays that is designed to be low-growing for less routine maintenance, with establishment of dense cover to provide erosion protection from surface runoff related to existing site topography.

- Use of a native bunch grass and pollinator species seed mix designed to provide mixed growth heights, shelter, and foraging habitat for wildlife and pollinator species (e.g., butterflies, bees).

- Use of native evergreen trees and deciduous shrub species to develop a living screen that also will benefit habitats for nesting birds and other wildlife, along with providing foraging opportunities from fruits, nuts, and seeds produced by these tree and shrub species.

The specific composition and rate specifications for the seed mixes and quantities of tree and shrub species for planting are provided on L-01 and L-02 of the Technical Drawings (Attachment B). The design of the living screen includes three native evergreen species and four native deciduous shrub species: balsam fir (*Abies balsamea*), eastern red cedar (*Juniperus virginiana*), eastern white cedar (*Thuja occidentalis*), American hazelnut (*Corylus americana*), winterberry (*Ilex verticillata*), gray dogwood (*Cornus racemosa*), and American cranberry (highbush) (*Viburnum opulus L. var. americanum*).

Trees will be installed at a minimum height of 6 feet as ball and burlap nursery stock and shrubs will be at least two to three feet tall as container grown nursery stock. Plant stock will be provided by cultivated natural stock and by a plant nursery that specializes in native plants to New York. Based on tree height restrictions surrounding the solar array, the eastern white cedar will use a commercial cultivar (e.g., Emerald green) to provide a mature specimen at a height ranging from 10 to 12 feet. Seed mixes will be specified and certified as weed and noxious species free from reputable seed suppliers.

The final application method of the seed mixes will either be sowed via hydro-seeded or drill-seeded, based upon site conditions. The living screen will be targeted for placement just outside of the fence-lined perimeter to maximize the line-of-sight blocking and effectiveness of visual screening. For boundaries where sufficient planting space is available, the use of two offset rows for tree and shrub plantings will be implemented. This planting design allows for better growth conditions for plantings with increased lighting and spacing for pyramidal evergreens, provides additional visual breakup from greater depth, and with mixed species will protect from potential mortality loss from a single pest or disease.

3 MONITORING, MAINTENANCE AND ADAPTIVE MANAGEMENT

The primary objective of the monitoring and maintenance activities is to ensure that proper growth of herbaceous ground cover, trees and shrubs is established for the short-term (i.e., five years) to meet performance criteria for visual screening and habitat needs for cover and for the long-term succession of the property. Adaptive management may be used during the course of the monitoring period to evaluate success of plantings, provide potential alternatives to maintenance timing or trimming activities, specify potential pest or invasive species control methods if high mortality is observed, and address any other concerns from stakeholders.

3.1 Monitoring

Monitoring of habitat development and planting success will be conducted semi-quantitatively during the spring and fall of each growing season after the installation of the plantings for a period of five years. This compliance monitoring will be performed for a period of 5 years following installation of plantings. If performance standards, as defined below, are met after 5 years monitoring of the site, then less rigorous routine monitoring will be performed during maintenance visits to ensure that plantings are in good health and providing the screening and overall habitat value as designed. If performance standards are not met after 5 years the need for continued compliance monitoring will be evaluated by the Town of Elba in consultation with FFP.

3.2 Performance Standards

Monitoring activities are designed to evaluate the status of the habitat restoration relative to its objectives and identify the need for additional maintenance or mitigative action (e.g., seeding, planting, exotic/invasive species control, regarding, etc.). Qualitative and quantitative data will be reviewed to evaluate habitat conditions and identify circumstances that would warrant mitigative action.

The following performance criteria will be used to evaluate project success:

- 75% survival of native trees and shrubs after two growing seasons
- 75% or greater establishment of visual screening around property perimeter after five growing seasons
- 80% installation of native ground cover used within the Tier 3 solar array
- Vegetative ground cover that provides erosion control and drainage management in and around solar panel installations
- Vegetative ground cover is dominated by native herbaceous species and is generally free of noxious or invasive species

The first three performance criteria are requirements of the Town of Elba's draft Solar Energy Law, while the remaining vegetative cover criteria are established for habitat stewardship and good management practices on behalf of FFP's commitment to the property and stakeholders.

3.3 Monitoring Events

During each monitoring event the planting contractor or an independent consultant hired by FFP will perform inspections to evaluate the survivability and planting cover for both herbaceous ground cover and tree and shrub vertical and visual cover for establishing an effective perimeter screen. Two events are planned per year, one to be conducted in spring and the other within the late summer to early fall.

The first monitoring event will be more qualitative in nature and will focus on general observations of plant health, presence of noxious or invasive species, signs of erosion or herbivory stress, and general effectiveness of visual screening. Set viewing points from adjacent roads (Norton and Ford) will be established to evaluate the visual screening effectiveness and will be photo-documented to support evaluation of 75% screening criteria. This spring visit will be used to help assess the need for potential corrective actions required to meet performance standards (e.g., overseeding sparse ground cover areas, tree replacement from mortality, or shrub protection from herbivory browsing).

During the late summer to early fall monitoring visit, the evaluation of herbaceous groundcover will be performed using random quadrat plots to estimate overall vegetative cover within the seeded areas of the project site. Assessment of herbaceous ground cover within the two seeded habitats will be conducted using randomly placed 1-meter by 1-meter quadrats. This will include a minimum of 5 sample quadrats within each seeded habitat. Within each quadrat, the following measurements will be taken annually:

- Total vegetative cover
- Total herbaceous cover
- General cover type characterization (i.e., cover percent estimations for various cover types such as vegetation, bare soil, rock, other)
- Identification of all species within quadrat
- Percent cover of all species within quadrat
- Average and maximum height of vegetation within quadrat
- Observations of stress or herbivory
- Characterization of soil moisture (i.e., depth of surface water, saturated to surface, water-stained leaves)

All cover class measurements will be recorded using cover class midpoints (provided below in table). Each permanent plot and quadrat will be photo-documented. In addition, photographs will be taken at each of the permanently established photo-documentation points.

Percent Cover Range	Cover Class Midpoint
< 1%	0.5
1 - 5 %	4
6 - 15%	10.5
16 - 25%	20.5
26 - 50 %	38
51 - 75 %	63
76 - 95%	85.5
> 95%	98

3.4 Reporting and Recommendations

Qualitative and quantitative monitoring data collected during routine monitoring events will be evaluated to develop appropriate recommendations for the project site. Monitoring data and recommendations will be included in an annual monitoring report produced following completion of the fall monitoring event each year to document progress and compliance with performance criteria. The report will be retained by FFP in the event the Town of Elba or Genesee County Soil and Water Conservation District request to review.

Objectives for an annual monitoring report are as follows:

- Quantitatively assess the vegetative cover throughout the habitat areas.
- Illustrate progress toward, or deviation from, stipulated performance criteria as defined by this approved PMMP.
- Provide Town of Elba and Genesee County Soil and Water Conservation District with suitable information to evaluate the existing condition of the property, if requested.
- If necessary, identify mitigative actions to move or maintain progress toward stipulated performance criteria as defined by this approved PMMP.

A typical monitoring report will include the following sections to best describe existing conditions and progress towards defined performance criteria:

- Introduction, including performance criteria and objectives of annual monitoring
- Methods used to complete late summer to fall sampling
- Results of annual monitoring, and comparison to “as-built” conditions and defined performance criteria
- Summary of implemented adaptive management actions (i.e., herbicide application, enhancement planting), and recommendations for the following year
- Overall summary

3.5 Maintenance Activities and Corrective Actions

The process of adaptive management will be used to monitor and maintain the project Site. This proactive management strategy uses information gathered over time to identify successful management practices

and opportunities for improvement that will help guide the project towards achieving its objectives. As such, routine monitoring is an important component of adaptive management. Information collected during monitoring events provides a means to identify and build on effective management practices and to develop recommendations to modify ineffective practices and implement corrective actions.

Maintenance activities and mitigative actions will be implemented as appropriate through the duration of the required monitoring period to address recommendations made through the adaptive management process. Recommended maintenance activities or mitigative actions may include routine mowing or trimming of herbaceous ground cover to support solar energy system maintenance activities, pruning of trees and shrubs to maintain suitable growth, shape, and heights, and/or seeding, additional soil amendment, or control of noxious/invasive species if dominating ground cover or preventing growth of tree or shrub species. FFP will evaluate on a case-by-case basis to determine necessity, sustainability, and benefit associated with any maintenance activity or mitigative action.

Each year the project will be evaluated periodically throughout the spring and summer to assess need for additional seeding/planting, removal of invasive/noxious species and other corrective actions. If warranted, additional seeding/planting will be implemented in the spring or fall and noxious/invasive species will be controlled at the most suitable time for target species.

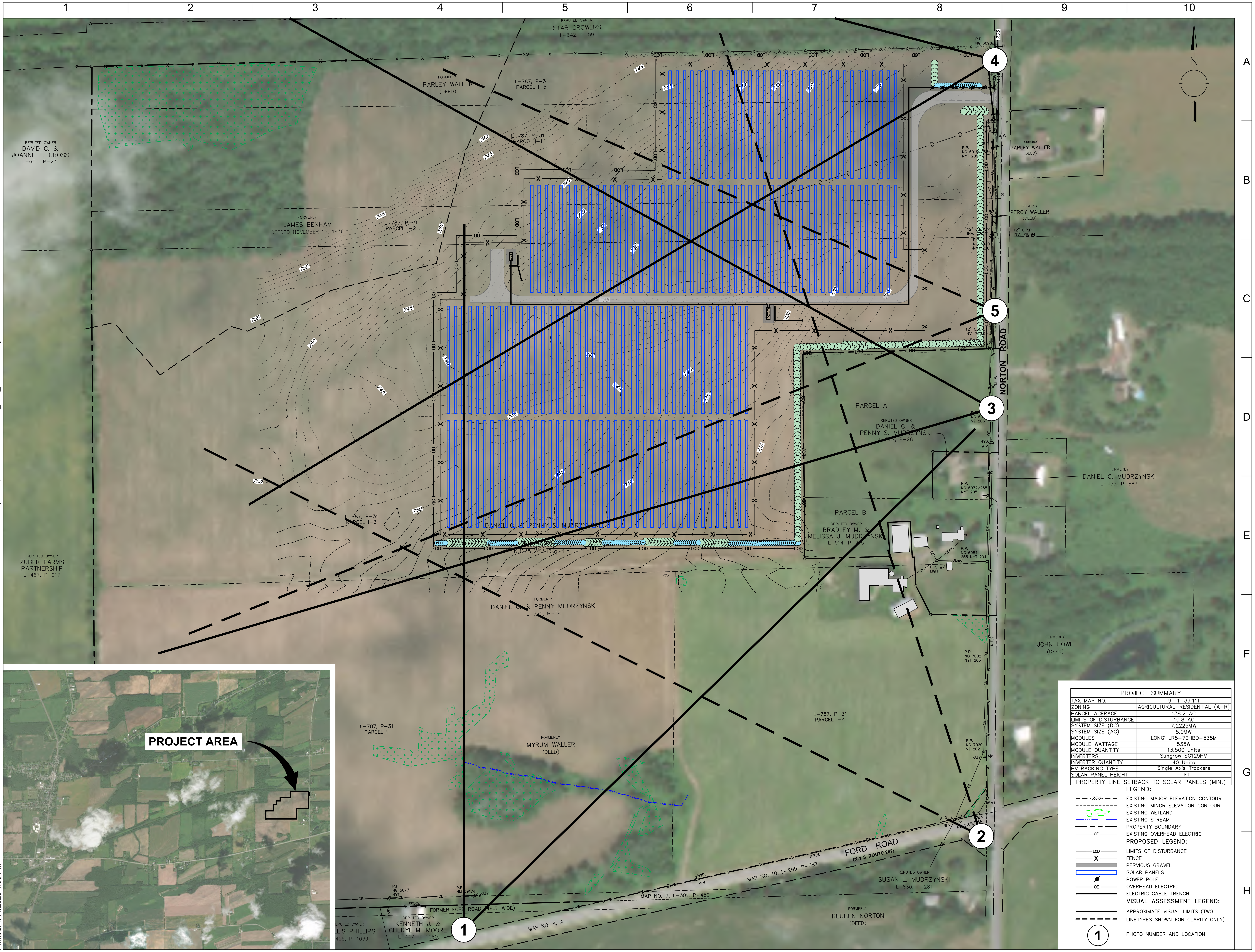
These activities will be noted within the annual reporting.

4 REFERENCES

USDA NRCS. 1969. Soil Survey of Genesee County, New York. March 1969.

ATTACHMENT A

Visual Assessment Survey



PROJECT SUMMARY	
TAX MAP NO.	9.-1-39.111
ZONING	AGRICULTURAL-RESIDENTIAL (A-R)
PARCEL ACERAGE	138.2 AC
LIMITS OF DISTURBANCE	40.8 AC
SYSTEM SIZE (DC)	7.2225MW
SYSTEM SIZE (AC)	5.0MW
MODULES	LONGi LR5-72HBD-535M
MODULE WATTAGE	535W
MODULE QUANTITY	13,500 units
INVERTERS	Sungrow SG125HV
INVERTER QUANTITY	40 Units
PV RACKING TYPE	Single Axis Trackers
SOLAR PANEL HEIGHT	- FT
PROPERTY LINE SETBACK TO SOLAR PANELS (MIN.)	

LEGEND:

- EXISTING MAJOR ELEVATION CONTOUR (750)
- EXISTING MINOR ELEVATION CONTOUR
- EXISTING WETLAND
- EXISTING STREAM
- PROPERTY BOUNDARY
- EXISTING OVERHEAD ELECTRIC (OE)

PROPOSED LEGEND:

- LIMITS OF DISTURBANCE (LOD)
- FENCE (X)
- PERVIOUS GRAVEL
- SOLAR PANELS
- POWER POLE
- OVERHEAD ELECTRIC (OE)
- ELECTRIC CABLE TRENCH

VISUAL ASSESSMENT LEGEND:

- APPROXIMATE VISUAL LIMITS (TWO LINETYPES SHOWN FOR CLARITY ONLY)
- (1) PHOTO NUMBER AND LOCATION

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NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER: NY-20-0003

SHEET TITLE: VISUAL ASSESSMENT FIGURE

SHEET SIZE: ARCH D 24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE: PRELIMINARY

SCALE: 1" = 120'

SHEET NO.: 1

C:\Users\ohunter\ARCADIS\Forefront NY Solar Costs - General\NY-20-0003 (Norton)\CAD\01-DWG\Norton_C&L_Site Plans.dwg

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NOTE:
PHOTOS REPRESENT PROJECTED VEGETATION GROWTH OF VISUAL SCREEN AFTER 5 YEARS.

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PROJECT NUMBER
NY-20-0003

SHEET TITLE
VISUAL ASSESSMENT FIGURE

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
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3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

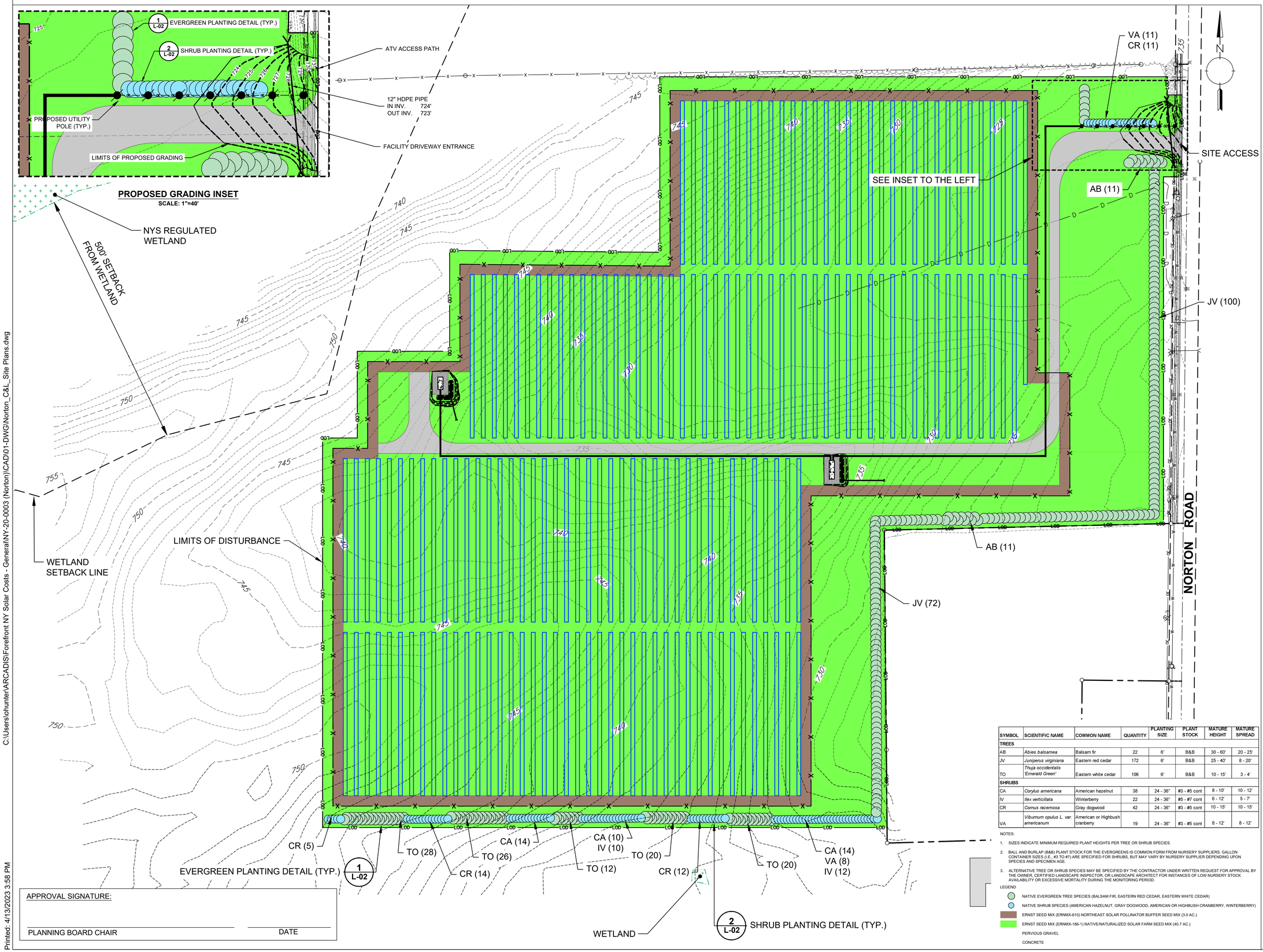
PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
2

ATTACHMENT B

Technical Drawings L-01 and L-02



SYMBOL	SCIENTIFIC NAME	COMMON NAME	QUANTITY	PLANTING SIZE	PLANT STOCK	MATURE HEIGHT	MATURE SPREAD
TREES							
AB	*Abies balsamea*	Balsam fir	22	6'	B&B	30 - 60'	20 - 25'
JV	*Juniperus virginiana*	Eastern red cedar	172	6'	B&B	25 - 40'	8 - 20'
TO	*Thuja occidentalis 'Emerald Green'*	Eastern white cedar	106	6'	B&B	10 - 15'	3 - 4'
SHRUBS							
CA	*Corylus americana*	American hazelnut	38	24 - 36"	#3 - #5 cont	8 - 10'	10 - 12'
IV	*Ilex verticillata*	Winterberry	22	24 - 36"	#5 - #7 cont	6 - 12'	5 - 7'
CR	*Cornus racemosa*	Gray dogwood	42	24 - 36"	#3 - #5 cont	10 - 15'	10 - 15'
VA	*Viburnum opulus L. var. americanum*	American or Highbush cranberry	19	24 - 36"	#3 - #5 cont	8 - 12'	8 - 12'

NOTES:

1. SIZES INDICATE MINIMUM REQUIRED PLANT HEIGHTS PER TREE OR SHRUB SPECIES.
2. BALL AND BURLAP (B&B) PLANT STOCK FOR THE EVERGREENS IS COMMON FORM FROM NURSERY SUPPLIERS. GALLON CONTAINER SIZES (I.E., #3 TO #7) ARE SPECIFIED FOR SHRUBS, BUT MAY VARY BY NURSERY SUPPLIER DEPENDING UPON SPECIES AND SPECIMEN AGE.
3. ALTERNATIVE TREE OR SHRUB SPECIES MAY BE SPECIFIED BY THE CONTRACTOR UNDER WRITTEN REQUEST FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR INSTANCES OF LOW NURSERY STOCK AVAILABILITY OR EXCESSIVE MORTALITY DURING THE MONITORING PERIOD.

LEGEND

- NATIVE EVERGREEN TREE SPECIES (BALSAM FIR, EASTERN RED CEDAR, EASTERN WHITE CEDAR)
- NATIVE SHRUB SPECIES (AMERICAN HAZELNUT, GRAY DOGWOOD, AMERICAN OR HIGHBUSH CRANBERRY, WINTERBERRY)
- ERNST SEED MIX (ERNMX-610) NORTHEAST SOLAR POLLINATOR BUFFER SEED MIX (3.0 AC.)
- ERNST SEED MIX (ERNMX-186-1) NATIVE/NATURALIZED SOLAR FARM SEED MIX (40.7 AC.)
- PERVIOUS GRAVEL
- CONCRETE

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

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NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
LANDSCAPE SCREENING PLAN

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE: 1" = 80' (MAIN)
1" = 40' (INSET)

SHEET NO.:
L-01

GENERAL LANDSCAPING NOTES AND VEGETATION MANAGEMENT RECOMMENDATIONS:

1. THE LANDSCAPE PLAN AND DETAILS ARE FOR LANDSCAPING PURPOSES ONLY.
2. THE CONTRACTOR SHALL MONITOR AND WARRANTEE THAT ALL PLANTS, TREES, AND SHRUBS TO BE HEALTHY AND FREE OF DISEASE FOR A PERIOD OF FIVE (5) YEARS AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER AND ENSURE THAT THE PERFORMANCE STANDARDS SPECIFIED IN THE PLANTING PLAN ARE MET. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE WARRANTEE REQUIREMENTS INCLUDING MAINTENANCE.
3. MAINTENANCE RESPONSIBILITIES INCLUDE MONITORING OF POTENTIAL NUISANCE OR INVASIVE SPECIES THAT MAY INTERFERE WITH THE GROWTH AND SURVIVABILITY OF THE TREE AND SHRUB PLANTINGS. MONITORING OF THE PROJECT SITE SHALL OCCUR IN SPRING AND FALL TO DETERMINE SURVIVABILITY OF TREE AND SHRUB PLANTINGS AND PRESENCE OF POTENTIAL NUISANCE OR INVASIVE SPECIES. IF THESE NUISANCE OR INVASIVE SPECIES ARE INHIBITING THE GROWTH OF SHRUBS OR TREES WITHIN THE SCREENING LAYER, THEN APPROPRIATE CONTROL METHODS WILL BE EMPLOYED BY THE CONTRACTOR. IF THESE METHODS DISTURB EXISTING SCREENING LAYER OR HERBACEOUS LAYER OF THE IMPACTED AREA, THEN THE CONTRACTOR WILL IMPLEMENT SUPPLEMENTAL MATERIALS (APPROVED WITHIN THIS PLAN) FOR SEEDING OF DISTURBED GROUND COVER OR REPLACEMENT OF TREES OR SHRUBS, AS NECESSARY.
4. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED CULTIVATING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL 90 DAYS AFTER FINAL ACCEPTANCE.
5. THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEED MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCLIMATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF TWO (2) YEARS AT THE SOURCE AND OBTAINED WITHIN 200 MILES OF THE PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.
6. THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS EXISTING IRRIGATION LINES OR OTHER AGRICULTURAL FIELD INFRASTRUCTURE. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.
7. ALL SHRUB MASSING SHALL BE MULCHED TO A DEPTH OF 2" AND SHREDDED HARDWOOD BARK MULCH SHALL BE USED FOR SHRUB MASSING AREAS.
8. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE CONTRACTOR. STAKING THE LOCATION OF ALL TREES AND SHRUBS SHALL BE COMPLETED PRIOR TO PLANTING FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT. STAKING OF THE INSTALLED TREE MUST BE COMPLETED THE SAME DAY AS IT IS INSTALLED. ALL TREES SHALL BE STAKED OR GUYED AS PER THE DETAIL. SEE LANDSCAPING PLAN(S) FOR PLANTING DETAILS.
9. PRIOR TO DIGGING, VERIFY WITH PROPERTY OWNER AND PERFORM DIGSAFE NY UTILITY CLEARANCE. COORDINATE PLANT MATERIAL LOCATIONS WITH SITE UTILITIES. SEE SITE LAYOUT, GRADING AND/OR UTILITY PLANS FOR STORM, SANITARY, GAS, ELECTRIC, TELEPHONE, AND WATER LINES. UTILITY LINES ARE APPROXIMATE. EXERCISE CARE WHEN DIGGING IN AREAS OF POTENTIAL CONFLICT WITH UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE DUE TO CONTRACTOR'S NEGLIGENCE AND SHALL REPLACE OR REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.
10. LANDSCAPE PLANTING PITS MUST BE FREE DRAINING. ALTHOUGH NOT ANTICIPATED, ANY LARGE ROCK OR DEBRIS/FILL ENCOUNTERED SHALL BE REMOVED TO A DEPTH OF 2' OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.
    - PLANTING SOIL MIXTURE:
      2 PARTS PEAT MOSS
      5 PARTS TOPSOIL
      MYCORRHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL. USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS. APPLY FERTILIZER/LIME AS RECOMMENDED BY SOIL ANALYSIS.
    - TREES AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS, OR LARVAE. THEY SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAIL(S) PROVIDED IN THE LANDSCAPING PLAN.
    - ALL PRUNING SHALL CONFORM TO THE TREE CARE INDUSTRY ASSOCIATION (TCIA) ANSI A300 (PART 1) - 2017 PRUNING STANDARDS. PRUNING STANDARDS SHALL RECOGNIZE BUT, ARE NOT LIMITED TO, THE FOLLOWING PRUNING OBJECTIVES: MANAGE RISK, MANAGE HEALTH, DEVELOP STRUCTURE, PROVIDE CLEARANCE, MANAGE SIZE OR SHAPE, IMPROVE AESTHETICS, MANAGE PRODUCTION OF FRUCTS, FLOWERS, OR OTHER PRODUCTS, AND/OR MANAGE WILDLIFE HABITAT. DEVELOPING STRUCTURE SHALL IMPROVE BRANCH AND TRUNK ARCHITECTURE, PROMOTE OR SUBORDINATE CERTAIN LEADERS, STEMS, OR BRANCHES; PROMOTE DESIRABLE BRANCH SPACING; PROMOTE OR DISCOURAGE GROWTH IN A PARTICULAR DIRECTION (DIRECTIONAL PRUNING); MINIMIZE FUTURE INTERFERENCE WITH TRAFFIC, LINES OF SIGHT, INFRASTRUCTURE, OR OTHER PLANTS; RESTORE PLANTS FOLLOWING DAMAGE; AND/OR REJUVENATE SHRUBS. PROVIDING CLEARANCE SHALL ENSURE SAFE AND RELIABLE UTILITY SERVICES; MINIMIZE CURRENT INTERFERENCE WITH TRAFFIC, LINES OF SITE, INFRASTRUCTURE, OR OTHER PLANTS; RAISE CROWN(S) FOR MOVEMENT OF TRAFFIC OR LIGHT PENETRATION; ENSURE LINES OF SIGHT OR DESIRED VIEWS; AND/OR COMPLY WITH REGULATIONS.
    - BASED ON SITE AND CURRENT USE OF AGRICULTURAL FIELD, IT IS DOUBTFUL THAT ANY SUPPLEMENTAL TOPSOIL REQUIREMENTS ARE NEEDED.
    - NO PHOSPHORUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.
    - IF SOIL TESTS INDICATE A PHOSPHORUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHORUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.
    - ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL RECEIVING A WILDFLOWER, WETLAND, AND/OR GRASS SEEDING MIXTURE SHALL BE COVERED WITH AN EROSION CONTROL BLANKET.
    - ALL WILDFLOWERS AND GRASSES SOWED SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFOWERS AND/OR GRASSES CAN BE MOWED/MAINTAINED (WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES) AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE/MANICURED HEIGHT.

APPROVAL SIGNATURE:

PLANNING BOARD CHAIR _____ DATE _____

TABLE 1 – NATIVE/NATURALIZED SOLAR FARM SEED MIX (ERNMX-186-1)

SCIENTIFIC NAME	COMMON NAME	PERCENT BY WEIGHT
Festuca rubra	Creeping Red Fescue	34.0%
Festuca ovina	Sheep Fescue	33.0%
Festuca brevipila	Hard Fescue 'Beacon'	10.0%
Festuca ovina var. duriuscula	Hard Fescue 'Gladiator'	5.0%
Festuca ovina var. glauca	Blue Fescue 'Azure'	5.0%
Poa pratensis	Kentucky Bluegrass 'Corsair'	5.0%
Agrostis perennans	Autumn Bentgrass, Albany Pine Bush	3.0%

TABLE 1 NOTES:

1. PLANT WITH A SEEDING RATE OF 6 LB PER 1,000 SQUARE FEET.
2. GRASS SEED MIXES ARE COMPRISED OF GRASSES THAT ARE NATIVE AND/OR NATURALIZED TO THE AREA AND/OR CONSIDERED FAVORABLE FOR WILDLIFE HABITAT AND SUSTAINABLE GROWTH. ADDITIONALLY, THE SOLAR FARM SEED MIX WAS DEVELOPED ESPECIALLY FOR NATIVE GRASS PLANTINGS AROUND SOLAR ARRAY FIELDS AND SHALL BE UTILIZED ACCORDINGLY. THESE GRASSES WILL MATURE OUT TO A HEIGHT OF APPROXIMATELY 2 TO 2 1/2 FEET HIGH.
3. THERE ARE NO WILDFLOWER OR POLLINATOR SEED SPECIES CONTAINED IN THESE NATIVE GRASS SEED MIXES.
4. THIS MIX WILL BE USED UNDER THE SOLAR PANEL ARRAYS (AS SHOWN ON SHEET L-01). THE MIX IS SPECIFIED FROM ERNST SEED AS ERNMX-186-1 AND AN EQUIVALENT MIX IS REQUIRED OF THE CONTRACTOR UPON THE TIME OF PLANTING.

TABLE 2 – NORTHEAST SOLAR POLLINATOR BUFFER SEED MIX (ERNMX-610)

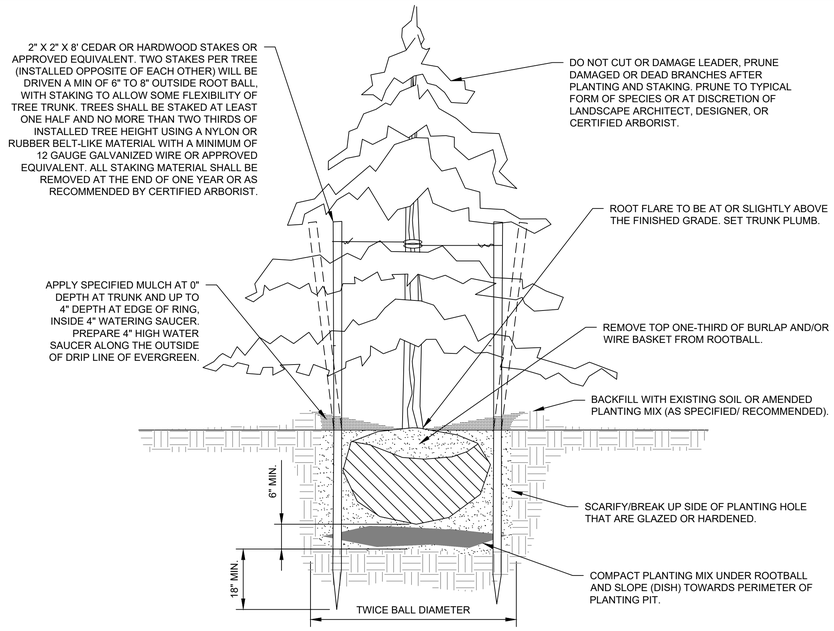
SCIENTIFIC NAME	COMMON NAME	PERCENT BY WEIGHT
Schizachyrium scoparium	Little Bluestem 'Camper'	37.0%
Bouteloua curtipendula	Sideoats Grama 'Butte'	36.3%
Chamaecrista fasciculata	Partidge Pea	4.0%
Coreopsis lanceolata	Lanceleaf Coreopsis	4.0%
Echinacea purpurea	Purple Coneflower	4.0%
Rudbeckia hirta	Blackeyed Susan	3.3%
Heliopsis helianthoides	Oxeye Sunflower	2.3%
Penstemon digitalis	Tall White Beardtongue	1.6%
Asclepias tuberosa	Butterfly Milkweed	1.5%
Liatris spicata	Marsh Blazing Star	0.8%
Senna hebecarpa	Wild Senna	0.7%
Asclepias incarnata	Swamp Milkweed	0.5%
Geum canadense	White Avens	0.5%
Monarda fistulosa	Wild Bergamot	0.5%
Pycnanthemum tenuifolium	Narrowleaf Mountainmint	0.5%
Zizia aurea	Golden Alexanders	0.5%
Aster laevis	Smooth Blue Aster	0.4%
Aster novae-angliae	New England Aster	0.4%
Baptisia australis	Blue False Indigo	0.3%
Tradescantia ohiensis	Ohio Spiderwort	0.3%
Oenothera fruticosa var. fruticosa	Sundrops	0.2%
Solidago nemoralis	Gray Goldenrod	0.2%
Aster prenanthoides	Zigzag Aster	0.1%
Veronicastrum virginicum	Culver's Root	0.1%
COVER CROP (SEE NOTE 4)		
Avena sativa	Annual Grain Oats	100.0%
Secale cereale	Annual Grain Rye	100.0%

TABLE 2 NOTES:

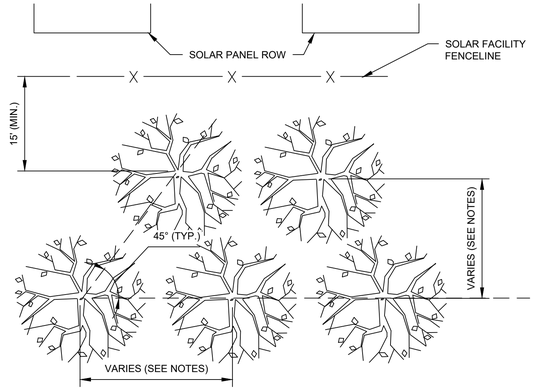
1. PLANT WITH A SEEDING RATE OF 20 LBS/ACRE.
2. NATIVE POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE AN EXCELLENT WILDLIFE FOOD AND SHELTER THAT WILL ATTRACT A VARIETY OF POLLINATORS AND SONGBIRDS. THE NATIVE WILDFLOWERS AND GRASSES IN THIS MIX PROVIDE AN ATTRACTIVE DISPLAY OF COLOR FROM SPRING TO FALL. POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE NECTAR AND FOOD SOURCES FOR A VARIETY OF POLLINATORS AND LARVA. THESE MIXES ARE COMPRISED OF A FAIRLY EVEN MIX OF NATIVE AND/OR INDIGENOUS WILDFLOWERS AND GRASSES.
3. THE POLLINATOR SEED MIX IS INTENDED TO BE SOWN ON THE INSIDE EDGE OF THE EXTENT OF THE PERIMETER FENCE LINE (AS SHOWN ON SHEET L-01).
4. A COVER CROP OF EITHER ANNUAL GRAIN OATS OR GRAIN RYE WILL BE APPLIED WITH THE POLLINATOR MIX TO ESTABLISH COVER AND PROTECTION OF SEEDS. THE COVER CROP WILL BE APPLIED AT A RATE OF 30 LBS/ACRE. THE CHOICE OF COVER CROP WILL BE MADE AT THE DISCRETION OF THE PLANTING CONTRACTOR AND THE GENERAL TIMING OF THE SEED SOWING. TYPICALLY, GRAIN OATS IS PLANTED DURING THE SPRING AND GRAIN RYE IS PLANTED IN THE FALL.
5. THIS POLLINATOR SEED MIX IS SPECIFIED FROM ERNST SEED AS ERNMX-610 AND AN EQUIVALENT MIX IS REQUIRED OF THE CONTRACTOR UPON THE TIME OF PLANTING.

EVERGREEN PLANTING DETAIL AND SHRUB PLANTING DETAIL NOTES:

1. EVERGREEN SPACING WILL VARY BASED ON SPECIES:
   1.1. EASTERN WHITE CEDAR WILL BE PLANTED AT 6 FEET ON CENTERS AT 45 DEGREES FOR TWO OFFSET ROWS.
   1.2. BALSAM FIR WILL BE PLANTED AT 9 FEET ON CENTERS AT 45 DEGREES FOR TWO OFFSET ROWS.
   1.3. EASTERN RED CEDAR PLANTED IN A SINGLE ROW WILL BE INSTALLED ON 10 FEET CENTERS.
2. SHRUBS PLANTED IN A SINGLE ROW WILL BE INSTALLED ON 6 FEET CENTERS.
3. SPACING BETWEEN TREE AND SHRUB TRANSITIONS WILL BE 8 FEET ON CENTER.
4. MINIMUM TREE OR SHRUB DISTANCE FROM FENCE LINE WILL BE 15 FEET. ADDITIONAL SETBACK DISTANCES FROM FENCE LINE ARE USED TO PREVENT PANEL SHADING.



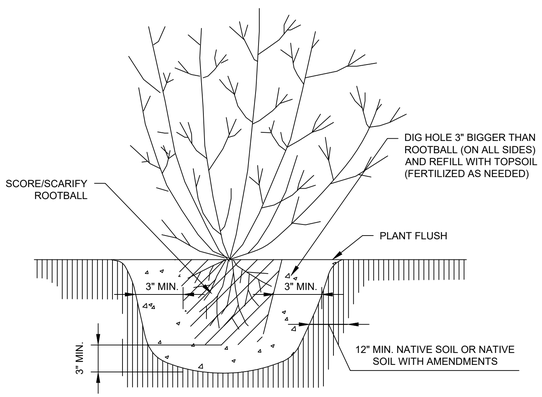
SECTION



SPACING

1 EVERGREEN PLANTING DETAIL

NOT TO SCALE



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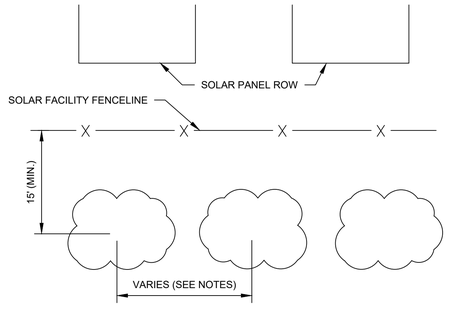

SPACING

2 SHRUB PLANTING DETAIL

NOT TO SCALE

nexamp

FFP NY ELBA PROJECT1, LLC AND ITS AFFILIATES, ALL RIGHTS RESERVED
101 SUMMER ST., 2ND FLOOR
BOSTON, MA 02110
(617) 431-1440
www.nexamp.com

ARCADIS
ARCADIS U.S., INC.
50 FOUNTAIN PLAZA
SUITE 600
BUFFALO, NY 14202
(315) 671-9545
www.arcadis.com

STAMP:

NOT FOR CONSTRUCTION

DRAFT

NY - CS NGRID ZONE A
NORTON
SAT 35% GCR
NORTH POCC

6982 NORTON RD
ELBA, NY 14058, USA

PROJECT NUMBER
NY-20-0003

SHEET TITLE
LANDSCAPE NOTES & DETAILS

SHEET SIZE
ARCH D
24" X 36"

NO.	REVISION	DATE	INIT.
0	PRELIMINARY	12.04.20	MBH
1	FOR REVIEW	01.12.21	MBH
2	FOR NYSDEC	03.19.21	MBH
3	FOR APPROVAL	07.12.21	MBH
4	AG & MARKETS	08.18.21	MBH
5	NATIONAL GRID	09.14.22	MBH

DATE:	4.13.23
DRAWN BY:	AGS/OMH
ENGINEER:	MBH
APPROVED BY:	XXX

PROJECT PHASE:
PRELIMINARY

SCALE:
NOT TO SCALE

SHEET NO.:
L-02

Operation and Maintenance Plan

EXHIBIT B

SCOPE OF MAINTENANCE SERVICES

During the term, Provider shall provide the services at the frequency indicated below, in accordance with the terms and conditions of this Agreement (as set forth in further detail below and pursuant to Section 2.07 of the Agreement). Notwithstanding anything to the contrary in this Exhibit B, if additional services and/or a greater frequency is required to comply with any applicable equipment manufacturer's recommendations and/or warranty requirements, Provider shall provide such additional services and/or at such frequency specified in the equipment manufacturer's recommendations and/or warranty requirements.

Item #	Service	Service Description	Frequency
1. Monitoring, Reporting, and Inventory			
1.1	Active Site Monitoring	Monitor inverters and meter output data for issues and alarms.	Daily
1.2	Annual Maintenance Plan	Provision of Annual Maintenance Plan, including baseline schedule for all maintenance services contemplated to occur in such year	Annually, by November 1 of each calendar year during the Term
1.3	Monthly Reporting	Provide monthly operating report for the Project including a summary of (i) operations; (ii) weather data, power and environmental attributes; (iii) Project performance; (iv) reports of any environmental or site disturbances; (v) safety/accident reports; (vi) Non-Covered Services; (vii) maintenance and inspection reporting; and (viii) any scheduled or recommended maintenance for the upcoming month.	Monthly, by the 15th day of the following month
1.4	Annual Reporting	Provide annual maintenance/inspection reports for the Project for the preceding calendar year	Annually, by February 1 of each calendar year during the Term
1.5	Emergency Services and Incident Reporting	Provide written report (in .pdf format) on any event involving Emergency Services, personnel injury associated with the Project, or material damage to any Project or any part thereof.	No later than five (5) business days after the occurrence, or immediately for OSHA recordable events, but no

Item #	Service	Service Description	Frequency
			later than 24 hours after obtaining knowledge of the event.
1.6	Security Incident Reporting	Notify Project Owner following provider receiving information indicative of a security issue on site	Immediately, but no later than 24 hours after obtaining knowledge of the event.
1.7	Maintain Spare Parts	Store, maintain, and replenish spare parts inventory at Project Owner's expense. Inventory will be stored, at Provider's option either on-site in an O&M storage structure or off-site at a centralized storage facility or warehouse.	As Needed
2. Site Property Inspection/Maintenance			
2.1	Vegetation Management	Maintain vegetation and debris removal/control and landscaping, for all property within the fence line and all property immediately surrounding fencing (within reason), specifically ensuring vegetation does not encroach on modules.	2 X per year, maximum
2.2	Perimeter and Fence Inspection	Inspect all fencing for signs of damage, intrusion, and overgrowth of vegetation. Inspect signage to ensure all originally installed signs are present and legible	2 X per year
2.3	Roads	Inspect all roads for soil erosion concerns	2 X per year
2.4	Site Security Systems	Inspect security systems (if installed) for proper operation according to original security plan and design. Inspect entire site for general vandalism or other signs of security related issues.	2 X per year
3. DC Systems			
3.1	Racking Inspection	Inspect all racking, racking mounts and conduits on racking for damage, corrosion, settling and stability	1 X per year
3.2	Module Inspections	Visually inspect a 25% sampling of modules for soiling, breakage, delamination, discoloring and hot spots (only via aerial thermal audits). Inspections may be done either on the ground or via aerial visual	1 X per year

Item #	Service	Service Description	Frequency
		analysis and aerial thermal imaging. If systemic issues are identified, notify Project Owner and propose a corrective action plan to be implemented as needed.	
3.3	Broken Module Replacement	Replace modules that have previously been identified as broken (within reason) or identified as broken at the time of inspection. The cost of replacement modules (either for immediate use or to replenish spare parts) will be paid for by the Project Owner as needed. The procurement of replacement modules is conditional to Project Owner approval.	As Needed
3.4	Wire Inspection	Visually inspect for proper wire management and any possible damage on exposed conductors.	2 X per year
3.5	Combiner Box and Re-Combiner Inspections	Electrical/mechanical inspection of combiners & disconnects. Visually inspect bonding bushings and grounding, check for wire damage especially at entrance/exit locations, terminal corrosion, any discoloration, and inspect fuses for proper functionality. Remove insects/pest debris from all enclosures.	2 X per year
3.6	Combiner Box and Re-Combiner Torque Inspections	Confirm and correct terminal torque settings for both sides of all fuse holders, grounded (negative) terminal bar, grounding bar, PV output circuit and DC Disconnects.	1 X per year
4. AC Systems			
4.1	Inverters	Perform annual inverter preventative maintenance work for all inverters per manufacturer's recommendations and manufacturer's warranty requirements.	Per Manufacturer's Recommendations and Manufacturer's Warranty Requirements
4.2	Inverter Air Filters and Transformer heat sinks	Inspect inverter air-filters and heat sinks, and clean or replace air filters if necessary.	2 X per year or Per Manufacturers Recommendations, whichever is more frequent.

Item #	Service	Service Description	Frequency
4.3	Transformers	Visually inspect and clean all transformers per manufacturer recommendations, including but not limited to oil level measurement and clearing heat sink of debris.	1 X per year
4.4	AC Disconnect (if applicable)	Inspection of latches and seals on enclosure, verify proper operation of disconnect, visually inspect terminations and confirm and correct terminal torque settings. Check for signs of arcing.	1 X per year
5. DAS/SCADA Inspections			
5.1	General DAS Inspection	Perform monitoring system maintenance per manufacturer's specifications; verify orientation and attachment of pyranometers and module temperature sensors and MET station, and verify back up power supply functionality.	1 X per year
5.2	Pyranometers	Clean pyranometer domes with a soft cloth.	All scheduled & unscheduled site visits
5.3	Pyranometer Calibration	Coordinate with Project Owner to cause calibration of pyranometers per manufacturer's specifications.	Per manufacturer specifications
5.4	Data/Instrument Accuracy and Communications Verification	Test MET station sensors (GHI and POA pyranometers, ambient temperature, back-of-module, anemometer, Revenue Grade Meter (including current transducers), and inverter direct	1 X per year
6. Testing			
6.1	Aerial Thermal Audits	100% Aerial Thermal Audits	1 X per year
6.2	Thermal Imaging	Thermal imaging of all: overcurrent protection devices (OCPD) and bolted electrical connections including terminations in combiners and all disconnects, inverters and transformers	1 X per year
6.3	Transformer Oil Testing	Conduct transformer oil sampling and testing per nationally and/or internationally recognized testing standards	1 X per two years

Item #	Service	Service Description	Frequency
6.4	Point-to-Point Testing	For 5% random sampling of combiner boxes, inspect grounding from modules & rack to combiners for wear, corrosion, and secure connections, and test the point-to-point resistance between modules, rack and EGC per NETA-ATS 2013 Section 7.13; document location, measure resistance and record results. Investigate point-to-point resistance readings that exceed 0.5 ohms. Notify Project Owner of any issues identified and propose a corrective action plan to be implemented as needed.	1 X per year

Decommissioning Plan

FFP NY Elba Project1, LLC

Decommissioning Plan

Norton Solar Project (NY-20-0003)

6982 Norton Road

Elba, New York

December 2022

Decommissioning Plan

Norton Solar Project (NY-20-0003)

6982 Norton Road

Elba, New York

December 2022

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Our Ref:
30052124

Contents

Tables

1. Introduction

1.1 Introduction

On behalf of FFP NY Elba Project1, LLC (FFP and "Applicant"), Arcadis of New York, Inc. (Arcadis) has prepared this draft Decommissioning Plan for the Norton Solar Project (NY-20-0003) in the Town of Elba, Genesee County, New York. The Project is located at 6982 Norton Road and will consist of a 5.0-megawatt (MW) solar photovoltaic (PV) array system on 42 acres of a 138-acre agricultural parcel (Tax Map Parcel 9.-1-39.111). Currently, the Project site is agricultural land with meadow and agricultural row crops as shown in the below photographs.

This Decommissioning Plan was prepared to satisfy a condition of the Special Use Permit for the project as outlined in the Town of Elba Solar Energy Local Law. For design and technical specifications, please refer to the Project technical drawings submitted as part of the Special Use Permit application.

1.2 Project Description

The project involves the construction of a solar PV array consisting of tilting racking systems, associated electrical equipment (e.g., transformer, switchboard, and utility poles), a pervious gravel access road, perimeter fencing, and landscaping for screening measures.

The PV panels are designed to tilt to track the sun to improve efficiency; power feed wire from the panel rows to the electrical equipment pad locations will be installed below-grade. Conduit from these pads will be installed below grade and run to utility poles near the site entrance. Aboveground wires will connect these utility poles to the existing electrical utility lines along Norton Road.

The spacing of the array rows is sufficient to allow for routine maintenance mowing of the surface vegetation. The Site will be restored to a meadow condition, except for a portion of the pervious gravel road. Trees and shrubs will be planted on the outside of the eastern and southern perimeter fencing to provide a screening barrier.

The proposed equipment that the Applicant will utilize associated with the Project are detailed below.

Table 1. Proposed Major Equipment

Item	Manufacturer/Provider	Quantity	Useful Life
Solar Arrays	LONGi Solar Technology Co., Ltd.	16,821	30 years
Inverters	Sungrow SG125HV	40	25 years
Transformer	Eaton-Cooper	2	30 years
Racking	Contractor	See Final Design	30 years
Wiring	Contractor	See Final Design	30 years
Concrete Pads	Contractor	See Final Design	30 years

2 Decommissioning and Reclamation Plan

Currently, an "option to lease" agreement is in place between the Applicant and the property owner. Upon Town of Elba approval of the Project, the Applicant will enter into a long-term lease agreement with Daniel Mudrzynski, the landowner, associated with this project. It is anticipated that a lease agreement with a twenty (20) year term will be executed with two (2) five-year options to extend. At the end of the lease terms, the Applicant will either 1) enter into a mutual agreement to extend the lease, or 2) remove the PV system components and restore the Project site at the Applicant's expense.

2.1 Anticipated Operational Life of Solar Array

Typically, solar panels have a useful life of approximately 30 years. Based upon the terms of the anticipated long-term lease with the property owner, it is anticipated that the solar farm will be operational for 30 years.

2.2 Decommissioning Notification

Project stakeholders will be notified a minimum of six months prior to initiating decommissioning activities. Local, county and state authorities will be notified, as needed, to discuss potential approvals required to complete decommissioning activities. Current stakeholders include:

- The property owner
- The Town of Elba
- National Grid
- New York State Department of Environmental Conservation
- New York State Department of Agriculture and Markets

2.3 Decommissioning Prior to Completion

In the event that decommissioning of the solar facility is necessary prior to fully commissioning the facility, a prolonged period (e.g., greater than 12 months) of inactivity, or prior to reaching its maturity, the decommissioning and site restoration procedures detailed in this plan will be implemented.

2.4 Implementation Plan

Decommissioning activities will be conducted by trained contractors in accordance with the New York State Department of Agriculture and Markets Guidelines for Solar Energy Projects-Construction Mitigation for Agricultural Lands (October 2019). Repurposing (e.g., recycling and reselling) of project materials, such as solar arrays, racking system, wiring, steel piers, and ancillary equipment will be conducted to the maximum extent practicable. Electrical equipment may be sold back to the manufacturer or another party, recycled or disposed. The utility, National Grid, will be responsible for removing their equipment from utility poles prior to the removal of the utility poles by the Applicant. Decommissioning of the solar farm will include the following:

- De-energizing the system from potential energy.
- Disconnection and removal of wiring from equipment.
- Removal of inverters, transformer, and switchgear from the concrete equipment pads.
- Removal of solar panels from piers and stacking of panels for off-site disposal or recycling.
- Removal of steel piers associated with the solar panels.

- Removal of equipment, concrete, conduits, structures, utility poles, fencing, and foundations located above- and belowground.
- Removal of gravel areas and access roads and associated geogrid.
- Decompaction of the access road footprint to a minimum of 24-inches beneath the bottom of the former stone layer.
- Segregating materials as recyclable, re-saleable or requiring offsite disposal.
- Removal of generated waste in accordance with local, state, and federal regulations.
- Removal of vegetated screen plantings and bioretention areas.
- Backfilling trenches with native soils.
- Placement of 6-inches of native topsoil over disturbed soils, with the exception of the access road footprint, which will have 12-inches of native topsoil placed to match surrounding grade. Additional topsoil will be added, as necessary, to account for settlement.
- Stabilization of disturbed soil within two weeks with a perennial grass stabilization mix applied per New York State Department of Environmental Conservation (NYSDEC) erosion and sediment control methods and seeding rates applicable for the season, soil type and slope. Revegetation will be conducted in coordination with the property owner.

Decompaction and topsoil placement will be conducted during dry soil conditions to minimize re-compaction by construction vehicles during site restoration activities. Post-decommissioning monitoring is summarized in Section 2.6, Site Restoration.

2.5 Potential Environmental Impacts

During decommissioning activities, potential short-term environmental impacts, similar to those observed during typical construction activities, are possible. Soil disturbance activities have the potential for: erosion and conveyance of soil/sediment to downgradient areas via surface runoff; erosion and sediment migration within work areas; and mechanical tracking of soils/sediments onto off-site areas. Therefore, temporary erosion and sediment control measures, similar to those installed during construction activities, will be installed, and maintained during decommissioning activities. Erosion and sediment controls will be installed and maintained in accordance with the latest edition of the NYS Standards and Specifications for Erosion and Sediment Control. These measures will remain in-place until the site is suitably stabilized.

In addition, the following potential environmental impacts may be temporarily observed during decommissioning activities:

- An increase in road traffic associated with the mobilization/demobilization of work crews and equipment and the off-site transportation of generated materials. Work will be limited to typical daylight working hours (e.g., 7 am to 7 pm) to reduce the impact to the community associated with the increase road traffic.
- Elevated noise levels due to the increase in road traffic, crews and equipment utilized. Work will be limited to typical daylight working hours (e.g., 7 am to 7 pm) to reduce the impact to the community associated with the increase road traffic.
- An increase in particulate matter (i.e., dust) on and adjacent to the Project area. Efforts will be made to limit the generation of particulate matter by limiting soil disturbances, especially during high wind periods, reducing vehicle speeds on the Project site, and wetting roadways. Management of Generated Materials

During decommissioning activities, a variety of materials will be generated. These materials will be segregated into material to be disposed of, recycled, or reused. A significant portion of the materials used for the project are

reusable or recyclable. In addition, some manufacturers provide take-back and recycling options. Materials not eligible for any sort of reuse or recyclable option will be transported and disposed of offsite in accordance with local, state, and federal rules and regulations. The solar panels will be collected and recycled to minimize the potential for modules to be discarded in the municipal waste stream. Due to the recent increase in solar facilities, it is anticipated that a large quantity of solar panels will be nearing the end of their useful life in 30 years. As such, it is anticipated that more recycling options will be available at that time. Materials generated during the Project will be handled (e.g., disposed, recycled, reused) using the best management practices at the time of decommissioning.

Table 2. Materials Management Summary

MATERIAL	MANAGEMENT METHOD
Solar Panels	Solar panels will be: 1) reused to the extent practical; 2) transported to a facility to separate and recycle the glass, metal, and semi-conductor materials; 3) returned to the manufacturer for disposal and/or recycling.
Metal Racking and Support System	Materials will be processed for recycling.
Transformers	Transformers will be 1) reused to the extent practical; 2) recycled; 3) transported back to the manufacturer; or 4) disposed off-site in accordance with the rules and regulations in place at the time of decommissioning.
Inverters	Metal components of the inverters and associated appurtenances will be recycled to the extent practical or disposed off-site in accordance with the rules and regulations in place at the time of decommissioning. The remaining inverter components will be disposed off-site in accordance with the rules and regulations in place at the time of decommissioning.
Concrete Equipment Pads/Foundations	Concrete pads and foundations will be broken up and transported and disposed off-site in accordance with the rules and regulations in place at the time of decommissioning.
Electrical Wiring/Cables	Electrical wiring/cables will be: 1) reused to the extent practical; 2) recycled; 3) returned to the manufacturer for disposal and/or recycling; or 4) disposed off-site in accordance with the rules and regulations in place at the time of decommissioning.
Gravel	Gravel will be transported off-site for processing and reuse.
Geotextile and Geogrid	During access road removal, the geogrid generated will be transported and disposed off-site in accordance with the rules and regulations in place at the time of decommissioning.

MATERIAL	MANAGEMENT METHOD
Fencing	Materials will be processed for recycling.
Utility Poles	If untreated, utility poles will be chipped for reuse. If treated, utility poles will be disposed of in accordance with the rules and regulations in place at the time of decommissioning.
Landscape	Landscaping requiring removal will be chipped for reuse.
Debris	Project site debris will be segregated into recyclable and residual waste and be transported and disposed off-site in accordance with the rules and regulations in place at the time of decommissioning.

2.6 Site Restoration

The Project site will be restored to pre-construction conditions and will:

- Follow the New York State Department of Agriculture and Markets Guidelines for Solar Energy Projects-Construction Mitigation for Agricultural Lands (October 18, 2019).
- Restore the project site to pre-construction conditions of meadow and agricultural row crops, in coordination with the property owner, and follow the latest version of the New York State Standards and Specifications for Erosion and Sediment Control for soil restoration, seeding, mulching or other applicable sections, as required.

If the property owner chooses, they may petition the Planning Board to permit the property owner to leave specific underground or aboveground improvements in place, provided that the property owner can show that these improvements are for site redevelopment, are not detrimental to site redevelopment and do not adversely impact the environment.

Following initial restoration after decommissioning, for a minimum of three growing seasons, agricultural production of the access road footprint will be monitored against adjacent crop growth for production/vitality. In addition, the area will be monitored for potential signs that existing tile drainage has been damaged. This monitoring plan be conducted by a NYS Department of Agriculture and Market approved inspector. In addition, the Applicant will be responsible for making restorative efforts in consultation with the NYS Department of Agriculture and Market approved inspector until sign-off by the inspector has been achieved.

2.7 Decommissioning Schedule

Decommissioning activities will be implemented in the event that:

- Decommissioning of the solar facility is necessary prior to fully commissioning the facility.
- The facility experiences a prolonged period (e.g., greater than 12 months) of inactivity.
- Decommissioning of the solar facility prior to reaching its maturity.
- The long-term lease for the solar facility has expired; or
- The solar facility has reached maturity.

Once one of the above conditions has been met, decommissioning activities will commence and will be completed within the next 12-month period.

3 Estimated Cost of Decommissioning

The estimated net cost of decommissioning the Project is approximately $535,590 and assumes repurposing approximately $74,500 of project materials. Table 3 summarizes decommissioning costs by major project components and overall project salvage value.

4 Financial Assurance

The Applicant will demonstrate financial assurance or will provide a performance bond, surety bond, or letter of credit to the Town of Elba. The bond will be renewed annually and remain available to the Town of Elba or property owner if the Applicant sells the project to another entity or the Applicant goes out of business. If the Applicant cannot commence decommissioning, the Town of Elba may commence the decommissioning through the use of the bond. The amount of the decommissioning bond or financial security provided to the Town of Elba will be equivalent to 25% of the estimated cost to conduct Site decommissioning and restoration activities, and include an escalator of 3% annually for the life of the proposed solar facility.

Table 3 Estimated Decommissioning Costs

Description	Estimated Quantity	Unit	Unit Price	Subtotal	Total	Unit Cost Reference/Assumptions
Mobilization, E&S Controls, Temp Facilities						
Field Management and Implementation						
Construction Manager	*60*	*HR*	*$120.00*	*$7,200.00*		
Operator - Class A	*60*	*HR*	*$47.46*	*$2,847.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*60*	*HR*	*$31.21*	*$1,872.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*60*	*HR*	*$31.21*	*$1,872.60*		*Genesee County Prevailing Wage*
Equipment Mobilization & Site Setup						
Skid Steer Heavy Equipment (mob/demob)	*1*	*LS*	*$600.00*	*$600.00*		
Skid Steer	*1*	*WK*	*$1,000.00*	*$1,000.00*		*$1000/week with bucket - UR quote*
Heavy Equipment (mob/demob)	*1*	*LS*	*$1,000.00*	*$1,000.00*		
Cat 330 Excavator	*1*	*WK*	*$2,800.00*	*$2,800.00*		
Temp Office Trailer	*1*	*month*	*$1,000.00*	*$1,000.00*		*Field office trailer for 1 mos.*
Temp Facilities	*1*	*month*	*$500.00*	*$500.00*		*2 porta johns and hand wash*
Generator	*1*	*month*	*$500.00*	*$500.00*		
Silt Fence	*1*	*LS*	*$1,400.00*	*$1,400.00*		
GPRS Private Utility Locate	*2*	*day*	*$2,500.00*	*$5,000.00*		
					$27,592.80	
Utility Disconnect, Demolition of Solar Panels, switchboards, support pipes, tilting racks, PV modules, Inverters, Transformers, Grounding Reactors						
Field Management and Implementation						
Construction Manager	*200*	*HR*	*$120.00*	*$24,000.00*		
Operator - Class A	*200*	*HR*	*$47.46*	*$9,492.00*		*Genesee County Prevailing Wage*
Laborer - Group B	*200*	*HR*	*$31.21*	*$6,242.00*		*Genesee County Prevailing Wage*
Laborer - Group B	*200*	*HR*	*$31.21*	*$6,242.00*		*Genesee County Prevailing Wage*
Electrician	*40*	*HR*	*$71.63*	*$2,865.05*		*Genesee County Prevailing Wage*
Equipment Mobilization & Site Setup						
Cat 330 Excavator	*4*	*WK*	*$2,800.00*	*$11,200.00*		
Skid Steer	*4*	*WK*	*$1,000.00*	*$4,000.00*		
Transportation & Disposal						
Recycle of Solar Panels	*13500*	*each*	*$18.00*	*$243,000.00*		*Recycling Services Agreement, includes transportation costs*
Non-Hazardous Oil	*1200*	*gal*	*$2.00*	*$2,400.00*		*Estimated volume of 3 transformers*
Salvage Value included below.						
					$309,441.05	
Removal of equipment pads and subsurface cables/conduits						
Field Management and Implementation						
Construction Manager	*60*	*HR*	*$120.00*	*$7,200.00*		
Operator - Class A	*60*	*HR*	*$47.46*	*$2,847.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*60*	*HR*	*$31.21*	*$1,872.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*60*	*HR*	*$31.21*	*$1,872.60*		*Genesee County Prevailing Wage*
Equipment						
Cat 330 Excavator #1	*1*	*WK*	*$2,798.00*	*$2,798.00*		
Hammer attachment and Mob/Demob	*1*	*WK*	*$3,000.00*	*$3,000.00*		
Skid Steer	*2*	*WK*	*$1,000.00*	*$2,000.00*		*United quote/week with bucket*
Hydraulic Manual Shear for Cutting Pipe supports	*0*	*days*	*$1,000.00*	*$0.00*		
One Light Tower w/ Fuel	*2*	*MOS*	*$1,000.00*	*$2,000.00*		*U.R. Quote*
Misc. materials (poly, etc.)	*1*	*LS*	*$2,000.00*	*$2,000.00*		
Transportation & Disposal						
Transportation & Disposal of Concrete				*$2,340.00*		*C&D - Assume $78/ton, 5 ton per roll off w/a 10T minimum = 6 roll offs*
					$27,930.80	
Perimeter Fence Removal						***4,300 feet of fence, 7' tall, 420 posts and associated mesh to be removed.***
Field Management and Implementation						
Construction Manager	*60*	*HR*	*$120.00*	*$7,200.00*		
Operator - Class A	*60*	*HR*	*$47.46*	*$2,847.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*55*	*HR*	*$31.21*	*$1,716.55*		*Genesee County Prevailing Wage*
Laborer - Group B	*55*	*HR*	*$31.21*	*$1,716.55*		*Genesee County Prevailing Wage*

Table 3 Estimated Decommissioning Costs

Description	Estimated Quantity	Unit	Unit Price	Subtotal	Total	Unit Cost Reference/Assumptions
Equipment						
Cat 330 Excavator #1	*1*	*WK*	*$2,798.00*	*$2,798.00*		
Skid Steer	*1*	*WK*	*$1,000.00*	*$1,000.00*		*United quote, $1,000/wk with bucket*
Pipe torch equipment	*1*	*LS*	*$2,000.00*	*$2,000.00*		
Transportation & Disposal	*40*	*ton*	*$78.00*	*$3,120.00*		
Backfill of voids included in Restoration below						
					$22,398.70	
Restoration						*Assume 15 acres disturbance with removal and tracking of equipment*
Common fill backfill of voids, pad areas, fence areas, 12" below final grade	*200*	*CY*	*$55.00*	*$11,000.00*		
Top soil of 12" to match grade	*1000*	*CY*	*$66.00*	*$66,000.00*		*Pad areas and temp road*
Hydroseed	*15*	*acre*	*$2,400.00*	*$36,000.00*		
Removal, transportation and disposal/recycling of road base material	*1900*	*CY*	*$46.00*	*$87,400.00*		*2100 LF, 20' wide, 12" deep is 1600 Cy + 20%*
Field Management and Implementation						
Construction Manager	*60*	*HR*	*$120.00*	*$7,200.00*		
Operator - Class A	*60*	*HR*	*$47.46*	*$2,847.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*60*	*HR*	*$31.21*	*$1,872.60*		*Genesee County Prevailing Wage*
Laborer - Group B	*60*	*HR*	*$31.21*	*$1,872.60*		*Genesee County Prevailing Wage*
Equipment						
Cat 330 Excavator #1	*1*	*WK*	*$2,798.00*	*$2,798.00*		
Skid Steer	*1*	*WK*	*$1,000.00*	*$1,000.00*		
					$217,990.80	
Town Consultanting Engineer Review						*Town to engage their engineer to review & approve restoration activities*
Principal	*4*	*HR*	*$160.00*	*$640.00*		
Project Manager	*16*	*HR*	*$140.00*	*$2,240.00*		
Technical Staff	*16*	*HR*	*$120.00*	*$1,920.00*		
					$4,800.00	
Salvage Value						
Unprepared Steel Credit >4'	*27000*	*lb*	*($0.065)*	*($1,755.00)*		*Fence - 40 lb per post, 56 posts, used current scrap value unprepared >4' plus mesh*
Racks and Frames	*648000*	*lb*	*($0.065)*	*($42,120.00)*		
Posts	*126600*	*lb*	*($0.065)*	*($8,229.00)*		
Inverters	*40*	*each*	*$16.000*	*$640.00*		
Transformers	*3*	*each*	*$300.000*	*$900.00*		
Cable and Wire Salvage	*24000*	*lb*	*($1.000)*	*($24,000.00)*		
					($74,564.00)	
Decommissioning Cost - Current Total					***$535,590.15***	
25% Contingency	*0.25*				***$133,897.54***	
Total Decommissioning Cost					***$669,487.69***	

Arcadis of New York, Inc.
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Buffalo
New York 14202
Phone: 716 667 0900
Fax: 716 842 2612
www.arcadis.com

Equipment Specifications

SG125HV

String Inverter for 1500 Vdc System

SUNGROW
Clean power for all

HIGH YIELD

- Patented five-level topology, max. efficiency 98.9 %, European efficiency 98.7 %, CEC efficiency 98.5 %
- Full power operation without derating at 50 ℃
- Patented anti-PID function

EASY O&M

- Virtual central solution, easy for O&M
- Compact design and light weight for easy installation

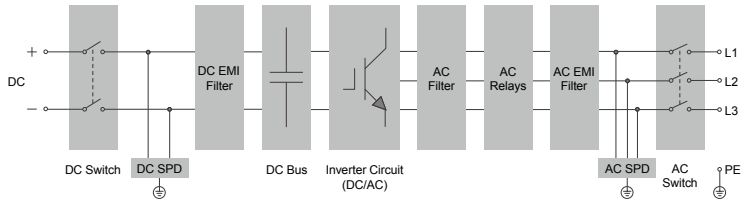
SAVED INVESTMENT

- DC 1500V,AC 600V, low system initial investment
- 1 to 5MW power block design for lower AC transformer and labor cost
- Max.DC/AC ratio up to 1.5

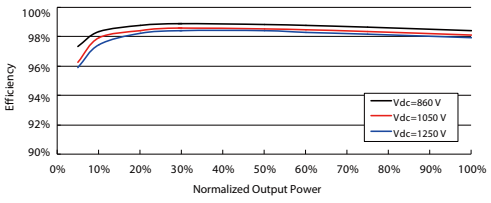
GRID SUPPORT

- Compliance with both IEC and UL safety,EMC and grid support regulations
- Low/High voltage ride through(L/HVRT)
- Active & reactive power control and power ramp rate control

CIRCUIT DIAGRAM



EFFICIENCY CURVE



Type designation	SG125HV
Input (DC)	
Max. PV input voltage	1500 V
Min. PV input voltage / Start-up input voltage	860 V / 920 V
Nominal PV input voltage	1050 V
MPP voltage range	860 – 1450 V
MPP voltage range for nominal power	860 – 1250 V
No. of independent MPP inputs	1
No. of DC inputs	1
Max. PV input current	148 A
Max. DC short-circuit current	250 A
Output (AC)	
AC output power	125 kVA @ 50 ℃
Max. AC output current	120 A
Nominal AC voltage	3 / PE, 600 V
AC voltage range	480 – 690 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % In
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading - 0.8 lagging
Feed-in phases / connection phases	3 / 3
Efficiency	
Max. efficiency / European efficiency	98.9% / 98.7%
CEC efficiency	98.5%
Protection	
DC reverse connection protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
DC switch	Yes
AC switch	Yes
Q at night function	No
Anti-PID function	Yes
Overvoltage protection	DC Type II / AC Type II
General Data	
Dimensions (W*H*D)	670*902*296 mm 26.4''*35.5''*11.7''
Weight	76 kg 167.5 lb
Isolation method	Transformerless
Degree of protection	IP 65 NEMA 4X
Night power consumption	< 4 W
Operating ambient temperature range	-30 to 60 ℃ (> 50 ℃ derating) -22 to 140 ℉ (> 122 ℉ derating)
Allowable relative humidity range (non-condensing)	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) 13123 ft (> 9843 ft derating)
Display / Communication	LED, Bluetooth+APP / RS485
DC connection type	OT or DT terminal (Max. 185 mm² 350 Kcmil)
AC connection type	OT or DT terminal (Max. 185 mm² 350 Kcmil)
Compliance	UL1741, UL1741SA, IEEE1547, IEEE1547.1, CSA C22.2 107.1-01-2001, FCC Part15 Sub-part B Class A Limits, California Rule 21, IEC 62109-1/-2, IEC 61000-6-2/-4, IEC 61727, IEC62116, BDEW, EN50549,VDE-AR-N 4110:2018, VDE-AR-N 4120:2018, UNE 206007-1:2013, P.O.12.3, UTE C15-712-1:2013, CEI 0-16:2017, IEC 61683, PEA, NTCO
Grid Support	LVRT, HVRT, ZVRT, active & reactive power regulation, PF control, soft start/stop

Hi-MO 5

LR5-72HBD

530~550M

- Based on M10-182mm wafer, best choice for ultra-large power plants
- Advanced module technology delivers superior module efficiency
  - M10 Gallium-doped Wafer
  - Smart Soldering
  - 9-busbar Half-cut Cell
- Globally validated bifacial energy yield
- High module quality ensures long-term reliability

12 12-year Warranty for Materials and Processing

30 30-year Warranty for Extra Linear Power Output

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO 9001:2015: ISO Quality Management System

ISO 14001: 2015: ISO Environment Management System

TS62941: Guideline for module design qualification and type approval

ISO 45001: 2018: Occupational Health and Safety

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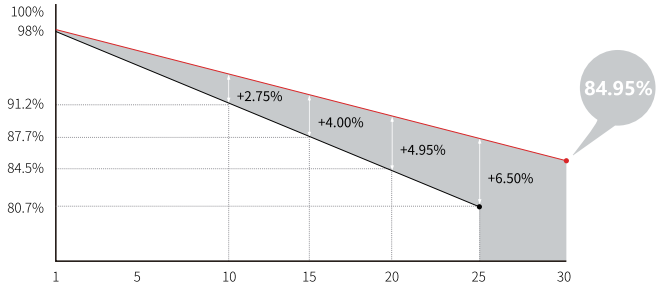
Hi-MO 5

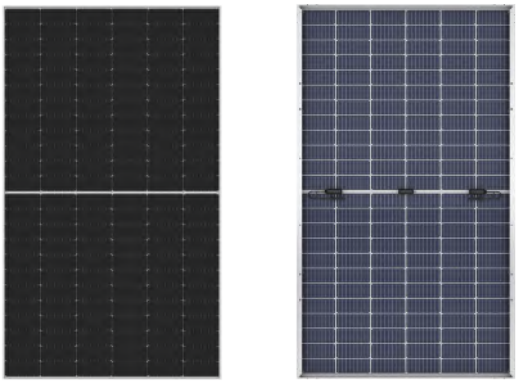
LR5-72HBD 530~550M

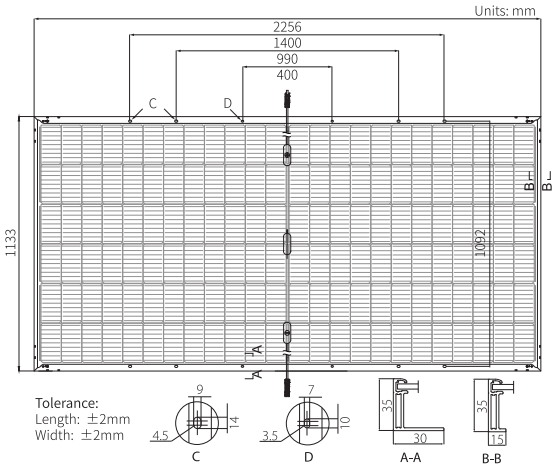
21.5%	0~3%	<2%	0.45%	HALF-CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION	Lower operating temperature

Additional Value

30-Year Power Warranty







Mechanical Parameters

Cell Orientation	144 (6×24)
Junction Box	IP68, three diodes
Output Cable	4mm², +400, -200mm/±1400mm length can be customized
Glass	Dual glass, 2.0+2.0mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Weight	32.3kg
Dimension	2256×1133×35mm
Packaging	31pcs per pallet / 155pcs per 20' GP / 620pcs per 40' HC

Electrical Characteristics

STC : AM1.5 1000W/m² 25°C NOCT : AM1.5 800W/m² 20°C 1m/s Test uncertainty for Pmax: ±3%

Module Type	LR5-72HBD-530M		LR5-72HBD-535M		LR5-72HBD-540M		LR5-72HBD-545M		LR5-72HBD-550M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	530	396.2	535	399.9	540	403.6	545	407.4	550	411.1
Open Circuit Voltage (Voc/V)	49.20	46.26	49.35	46.40	49.50	46.54	49.65	46.68	49.80	46.82
Short Circuit Current (Isc/A)	13.71	11.07	13.78	11.12	13.85	11.17	13.92	11.23	13.99	11.29
Voltage at Maximum Power (Vmp/V)	41.35	38.58	41.50	38.72	41.65	38.86	41.80	39.00	41.95	39.14
Current at Maximum Power (Imp/A)	12.82	10.27	12.90	10.33	12.97	10.39	13.04	10.45	13.12	10.51
Module Efficiency(%)	20.7		20.9		21.1		21.3		21.5	

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Voc and Isc Tolerance	±3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	70±5%
Fire Rating	UL type 29 IEC Class C

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.265%/°C
Temperature Coefficient of Pmax	-0.340%/°C

LONGi

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